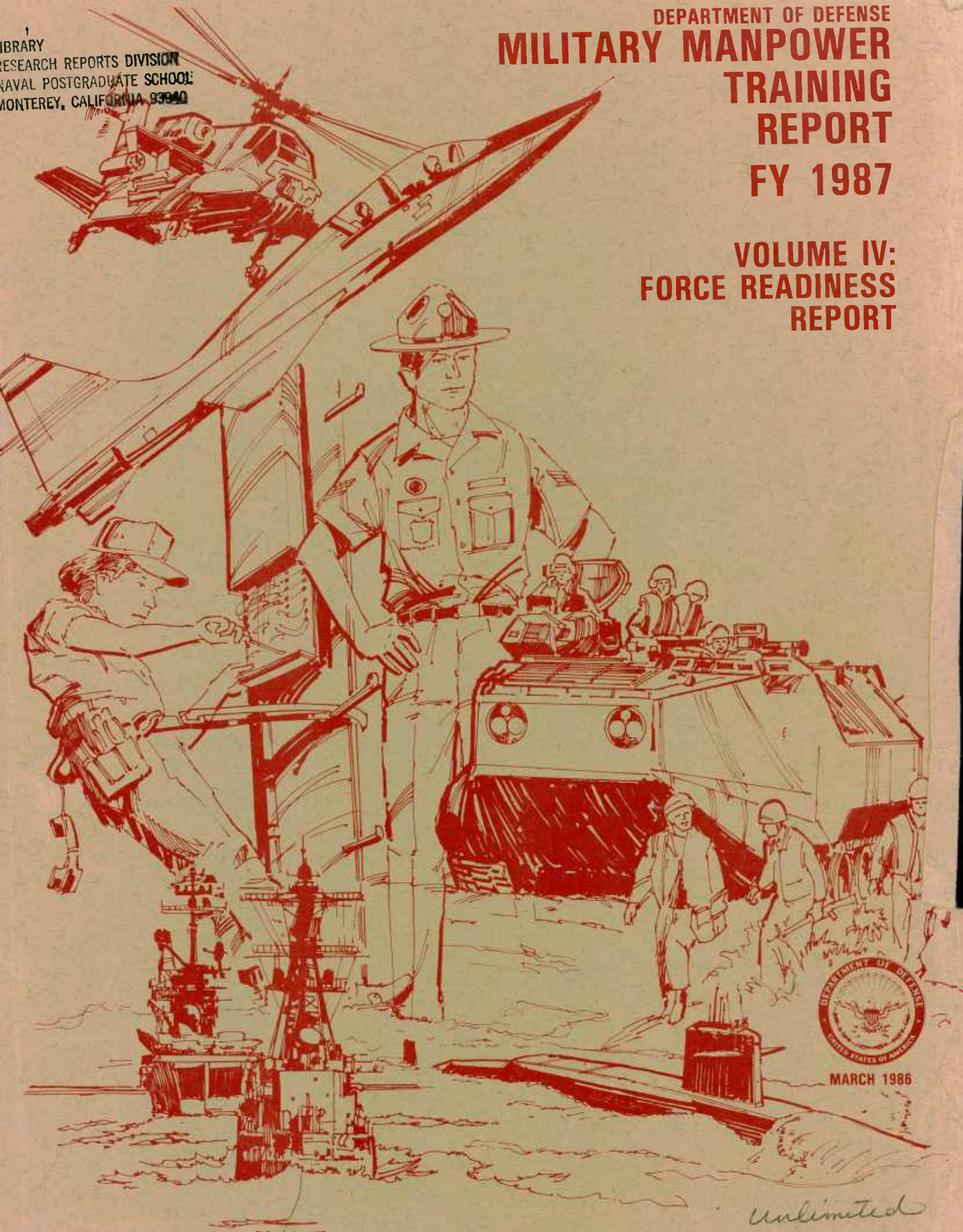


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DEPARTMENT OF DEFENSE
**MILITARY MANPOWER
TRAINING
REPORT**
FY 1987

**VOLUME IV:
FORCE READINESS
REPORT**



MARCH 1986

Unlimited

ae DEPARTMENT OF DEFENSE,
**MILITARY MANPOWER
TRAINING REPORT**
FOR FY 1987.



VOLUME IV:
FORCE READINESS REPORT.

Prepared by

// Office of the Assistant Secretary of Defense,
(Force Management and Personnel)

Department of the Army

Department of the Navy

Department of the Air Force

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EXECUTIVE SUMMARY

The Military Manpower Training Report of the Secretary of Defense is submitted to the Congress in accordance with 10 U.S.C. 138(d)(2), which states:

The Secretary of Defense shall submit to Congress a written report, not later than March 1 of each fiscal year, recommending the average student load for each category of training for each component of the armed forces for the next three fiscal years, and shall include in that report justification for, and explanation of, the average student loads recommended.

This report specifically supports the Department of Defense request for authorization of average military student training loads for each component, active and reserve, of each Service for Fiscal Year 1987. Requested training loads are shown in Table 1.

TABLE 1.--Requested Training Loads, FY 1987 and FY 1988

	<u>FY 1987</u>	<u>FY 1988</u>
<u>Active Components</u>		
Army	76,758	77,981
Navy	72,483	73,166
Marine Corps	19,433	20,182
Air Force	<u>43,911</u>	<u>44,313</u>
Subtotal	212,585	215,642
<u>Reserve Components</u>		
Army National Guard	18,262	18,671
Army Reserve	15,858	16,261
Naval Reserve	3,493	3,482
Marine Corps Reserve	3,944	3,991
Air National Guard	3,566	3,545
Air Force Reserve	<u>2,127</u>	<u>2,127</u>
Subtotal	<u>47,250</u>	<u>48,077</u>
TOTALS	259,835	263,719

The requested loads are consistent with the President's Budget for FY 1987 and the Department of Defense request for authorization of military manpower strengths, active and reserve, as submitted in February 1986.

Definitions and Explanation of Training Loads

This report discusses the training and education of individuals within the Department of Defense, as opposed to the training within operational mission units. Individual training and education, for purposes of this report, is divided into six categories:

- Recruit Training, given to enlisted entrants to the Services who have not had previous military service.
- One-Station Unit Training, an Army program which combines Recruit Training and training in certain skills into a single course.
- Officer Acquisition Training, which leads to a commission in one of the Services.
- Specialized Skill Training, needed to prepare military personnel for specific jobs in the Military Services.
- Flight Training, primarily for prospective pilots and navigators before they receive an initial operational assignment.
- Professional Development Education, relating to the advanced professional duties of military personnel or to advanced academic disciplines to meet Service requirements.

"Training loads" are the average number of students and trainees participating in formal individual training and education courses during the fiscal year. For a full fiscal year, training loads are the equivalent of student/trainee manyears for these participants, including both those in temporary duty and permanent change of station status.

The requirement for training in a baseline force is derived from the need to replace losses in each skill required in the military force structure. Losses, through separations, promotions and other causes, are projected at various points in the future and compared to the projected inventory of trained personnel. The deficit between the requirement in each skill and the inventory becomes a demand for an output of trained personnel. A phased input of students to the training establishment is then scheduled so that trained personnel, in each skill and skill level, are available at the proper time to replace the losses in those skills. The resulting workload placed on the training establishment is the basis of the training loads addressed in this report.

The training load for each component is the measure of the amount of training required for the members of that component, although some of the training will be done by other Services, in DoD schools, or in some cases by institutions outside the Department of Defense. The training of members of the Reserve Components included in the report is the formal school training provided by the active training establishment to individual members of the Reserve Components while they are on active duty for training; this is primarily training provided to non-prior service personnel entering the Reserve Components.

An Overview of Training Loads

During FY 1987 and FY 1988, total requested DoD training loads will range between approximately 259, 835 and 263,719. About 82 percent of these annual loads is composed of training for members of the active forces; the remaining 18 percent of these loads is training for members of the Reserve Components, while on active duty, conducted by the active training establishment.

Table 2 displays the percentage of total active force loads and the percentage of total Reserve Component loads attributable to each of the major categories of training in FY 1986.

TABLE 2.--Percent Distribution of Training Loads, FY 1987

<u>Training Category</u>	<u>Active Forces</u>	<u>Reserve Components</u>
Recruit Training	20%	25%
One-Station Unit Training	5%	17%
Officer Acquisition Training	9%	1%
Specialized Skill Training	57%	55%
Flight Training	3%	1%
Professional Development Education	6%	1%
Total	100%	100%

The preponderant categories of training, in terms of training loads, are Recruit Training and Specialized Skill Training, both of which, along with One-Station Unit Training, are strongly influenced by the number of enlisted non-prior service accessions to the force. Other types of training -- all of Officer Acquisition Training, for example -- are also driven by the number of new accessions to the force. Table 3 divides the requested training loads for FY 1987 into two parts: training that is primarily accession-related, and is conducted for the purpose of turning a civilian into a qualified servicemember with a usable military skill; and other training, which, for the most part, is conducted for the purpose of preparing members in later stages of their military careers for more demanding duties.

TABLE 3.--Accession-Related Training and Training Loads, FY 1987
(Thousands)

	<u>Active Forces</u>	<u>Reserve Components</u>	<u>Total Active & Reserve</u>
<u>Accession-Related Loads</u>			
Recruit	42.9	11.9	54.7
One-Station Unit Training	11.2	7.9	19.1
Officer Acquisition	18.8	0.3	19.1
Initial Skill (Officer & Enlisted) <u>a/</u>	70.2	20.3	90.5
Undergraduate Flight	<u>5.5</u>	<u>0.6</u>	<u>6.0</u>
Subtotal	148.6	40.9	189.5
<u>Other Loads</u>			
Other Specialized Skill	50.8	5.8	56.6
Other Flight	1.2	0.1	1.3
Professional Development	<u>12.0</u>	<u>0.3</u>	<u>12.3</u>
Subtotal	<u>64.0</u>	<u>6.3</u>	<u>70.3</u>
<u>Total Load</u>	<u>212.6</u>	<u>47.2</u>	<u>259.8</u>
<u>Accession-Related Loads as a Percentage of Total Loads</u>	70%	87%	73%

Note: Numbers may not add due to rounding.

a/ In some cases, includes some training for prior-service personnel or personnel who receive the training at a later stage in their career.

As Table 3 shows, training primarily related to new accessions amounts to about 70 percent of all training programmed for the active forces in FY 1987; only about 30 percent is for subsequent training. The comparable proportions for the Reserve Components are about 87 and 13 percent. The concentration on accession-related training demonstrates the priority the Services place on training intended to produce new servicemembers who are motivated, amenable to discipline, and capable of productive service as members of military organizations.

Table 4 shows the trend in training loads.

TABLE 4.--Active and Reserve Training Load Trends by Service,
FY 1973 - 87
(Thousands)

	<u>FY 73</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>Percent Change</u>	
							<u>FY 73-87</u>	<u>FY 85-87</u>
<u>Active Forces</u>								
Army	109	71	70	71	78	77	-30%	+ 8%
Navy	77	63	64	67	70	72	- 6%	+ 8%
Marine Corps	30	19	21	19	19	19	-35%	+ 2%
Air Force	<u>59</u>	<u>44</u>	<u>41</u>	<u>41</u>	<u>43</u>	<u>44</u>	<u>-26%</u>	<u>+ 7%</u>
Total Active	274	197	196	198	210	213	-22%	+ 7%
<u>Reserve Components</u>	<u>25</u>	<u>33</u>	<u>32</u>	<u>36</u>	<u>48</u>	<u>47</u>	<u>+89%</u>	<u>+32%</u>
Total DoD	299	230	228	234	258	260	-13%	+11%

Note: Calculations are affected by rounding.

Table 5 compares training loads by the major categories of training.

TABLE 5.--Active and Reserve Training Load Trends by Training Category,
FY 1973 - 87
(Thousands)

	<u>FY 73</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>Percent Change</u>	
							<u>FY 73-87</u>	<u>FY85-87</u>
Recruit	94	52	52	52	57	55	-42%	+ 6%
Officer								
Acquisition	20	19	19	20	19	19	- 5%	- 4%
Specialized								
Skill	157	118	119	124	141	147	- 6%	+18%
Flight	9	8	7	7	7	7	-18%	+ 8%
Professional								
Development	19	9	10	12	12	12	-35%	+ 3%
One-Station Unit								
Training	<u>-</u>	<u>24</u>	<u>21</u>	<u>19</u>	<u>21</u>	<u>19</u>	<u>-</u>	<u>+ 1%</u>
Total	299	230	228	234	258	260	-13%	+11%

Note: Calculations are affected by rounding.

The training loads reflect shifts in resources and training capacities to complement force plans. Total training loads will increase from 234,000 in FY 1985 to 260,000 in FY 1987. The growth in Specialized Skill Training accounts for much of the increase.

Funding for Individual Training

Funds required to support the training in the training load request for FY 1987 total approximately \$18.1 billion. This amount includes pay and allowances for the students undergoing training, pay and allowances of military and civilian personnel in support of training, operations and maintenance costs, and training-related procurement and construction funded in FY 1987. Table 6 displays total training costs for each Service.

TABLE 6.--Funding of Individual Training
by Service, FY 1987
(\$ Millions)

<u>Army</u>	<u>Navy</u>	<u>Marine</u> <u>Corps</u>	<u>Air</u> <u>Force</u>	<u>DoD</u>
\$7,682.3	\$4,947.2	\$1,269.7	\$4,164.6	\$18,063.8

The same funding is shown in Table 7 for each of the major categories of training and for related support and travel.

TABLE 7.--Funding of Individual Training
by Training Category, FY 1987
(\$ Millions)

Recruit Training	\$1,277.9
Officer Acquisition Training	495.5
Specialized Skill Training	4,950.4
Flight Training	1,931.5
Professional Development Education	673.0
Army One-Station Unit Training	406.8
Medical Training	663.5
BOS and Direct Training Support	4,740.3
Management Headquarters	154.4
PCS Cost for Training	644.7
TDY Cost for Training	1,085.0
Reserve Component Pay and Allowances	<u>1,040.8</u>
Total	\$18,063.8

Note: Numbers may not add due to rounding.

Funding estimates are based on data contained in DoD's Five Year Defense Program (FYDP). This report is consistent with resource estimates in the President's budget, the justification material submitted to the Congress, the Five Year Defense Program and other internal DoD management reports.

Manpower for Individual Training

Individual training requires manpower to conduct and support instruction, manage military schools and training centers, maintain training bases and provide support to students, military staff members and their dependents. Chapter IX of this report provides an analysis of military and civilian manpower in individual training. Manpower in support of individual training for FY 1987, by the general functions it performs, is shown in the following table.

TABLE 8.--DoD Manpower in Support of Individual Training, FY 1987
(End Strength, Thousands)

	<u>Military</u>	<u>Civilian</u>	<u>Total</u>
Training and Direct Training Support <u>a/</u>	101.6	23.9	125.5
Base Operating Support	28.0	41.3	69.3
Major Training Headquarters	1.8	1.5	3.3
Total	131.4	66.7	198.0

a/ Includes instructors, instructional support, school/training center administration, student supervision.

Table 9 shows that the total amount of manpower in support of individual training is 3 percent higher in FY 1987 than it was in FY 1982. Base Operating Support has been reduced in prior years and continues a gradual decline between FY 1982 and FY 1987, down 6 percent. Manpower at major training headquarters will decrease 18 percent. Overall, the total manpower declines show reductions in manpower for Base Operating Support and Management Headquarters functions which partially offset the increases in manpower for Training and Direct Training Support.

TABLE 9.--Trends, Manpower in Support of Training, FY 1977-87
(Combined Military and Civilian End Strengths, Thousands)

	<u>FY 77</u>	<u>FY 82</u>	<u>FY 87</u>	<u>Percent Change</u>	
				<u>FY 77-87</u>	<u>FY 82-87</u>
Training and Direct					
Training Support	130	115	125	- 3%	+ 9%
Base Operating Support	81	74	69	-14%	- 6%
Major Training					
Headquarters	4	4	3	-18%	-18%
Total	215	193	198	- 8%	+ 3%

Training workloads -- that is, all students trained including DoD military students, foreign students and students from other U.S. agencies -- have increased as Table 10 shows.

TABLE 10.--Training Workloads, FY 1977-87
(Thousands)

<u>FY 77</u>	<u>FY 82</u>	<u>FY 86</u>	<u>FY 87</u>	<u>Percent Change</u>	
				<u>FY 77-87</u>	<u>FY 82-87</u>
238	256	280	276	+ 16%	+ 8%

The relatively smaller increase in training manpower as compared to training workload shows a productivity improvement in the Service training establishments. This is consistent with DoD's general emphasis on increased efficiency in support areas.

The Necessity for Good Training

The objective of individual training is to provide the operational forces with personnel adequately trained to assume jobs in military units. Without effective training and education programs, the operational forces would be manned with personnel who are less than fully qualified for their jobs. Since the nation cannot predict when or where war may break out or count on an extended period for mobilization, we must have effective individual training conducted in training institutions to assure that our operational units are capable of carrying out national security missions in peace or war.

MILITARY MANPOWER TRAINING REPORT FOR FY 1987

INTRODUCTION

Training Requirements and Manpower Requirements

Requirements for training and education of military personnel are derived ultimately from basic national security objectives. This Report, the Report of the Secretary of Defense to the Congress on the FY 1987 Budget, and the Defense Manpower Requirements Report, describe the progression from national security objectives to training load requirements. The Report of the Secretary of Defense explains the relationship between the threat and the forces designed to cope with the threat. The Manpower Requirements Report relates these forces to the requirement for trained manpower to man the forces. The Military Manpower Training Report takes as a starting point the requirement for trained military manpower described in the Manpower Requirements Report. It then describes how these requirements relate to the demand placed on the military training establishment to supply this trained manpower, and how this demand leads to the DoD request for military student training load authorizations for each component of the Military Services. The Manpower Requirements Report and this Report are mutually supportive; however, the data in the two reports are not interchangeable or directly comparable. The principal reason for this difference is that the main focus of the Manpower Requirements Report is upon requested strength on the last day of fiscal years (that is, end strength), whereas the main focus of this Military Manpower Training Report is upon requested student loads, a concept more comparable to average strength, or man-years, than to end strength.

Definition of "Individual Training and Education"

This report addresses the "individual training and education" activities of the Department of Defense. These involve the training of individual military members in formal courses conducted by organizations whose predominant mission is training; this training is to be differentiated from training activities conducted by operational units incidental to their primary combat, combat support, or combat service support missions. Training conducted in the unit environment, the training of organized crews and operational units for the performance of specific missions, is not included in the training loads discussed in this report, but is discussed in the Manpower Requirements Report. In certain categories of training, on-the-job training (OJT) in units supplements or substitutes to some extent for all or part of formal course training requirements; OJT is also not included in the training loads discussed in this report.

The purpose of individual training and education is to give individual servicemembers the skills and knowledge that will qualify them to perform effectively in subsequent assignments as members of

operational military organizations. "Individual training and education" includes all formal military and technical training and professional education conducted under centralized control, generally under the supervision of a Service training command or similar organization. The trainees and students undergoing the training or education addressed in the report include the following categories of personnel:

1. Active Force: officers, enlisted personnel, and Service Academy cadets and midshipmen.
2. Reserve Components: officers and enlisted members on active duty for training in formal school courses.

Training of some civilian students, prior to their entry into the Services, in such programs as ROTC, is also discussed in the report. However, training loads are properly requested only for training and education of personnel received while they are in active military status.

In general, the training discussed in this report is conducted under Major Defense Program VIII, "Training, Medical and Other General Personnel Activities," as presented in the Defense budget. Exceptions to these general rules are pointed out, where appropriate, in the body of the report.

Personnel undergoing individual training and education are classified, for manpower accounting purposes, as either trainees, students, or cadets, unless they are undergoing training while on temporary duty or temporary additional duty from their unit of assignment, or unless they are being trained while en route to new stations as transients. The term "trainees" is generally used for all enlisted personnel in Recruit Training and Initial Skill Training. "Cadets" (or "midshipmen" in the case of the Naval Academy) are members being educated at one of the Service Academies. All others receiving individual training and education are identified as "students". The distinction is not important for the purposes of this report, and the term "student" will be used where appropriate to describe members of all three classifications as well as temporary duty and transient personnel being trained.

The term "training" generally refers to instruction in military subjects either at a basic level, as in Recruit Training, or in a military or job-related technical specialty, such as pilot training or training in radar repair. "Education" generally refers to study either in more advanced subjects or in military subjects which apply to an entire Service or to the broad mission of national security, as, for example, the curriculum at the National War College. The term "training" will be used in this report to refer to individual training and education as a whole.

FY 1987 Training Report and the FY 1987 Budget

It is important to emphasize that this report, while consistent with the Department of Defense Budget for FY 1987, differs in structure from the budget justification in two major respects. Budget justifications are focused on explaining how, by whom, and why money is to be spent; budgets for training and their justifications, therefore, are prepared by the Service which conducts the training programs and must obtain funds to train personnel from other Services in addition to its own. By contrast, this report details and emphasizes the training loads of the components of the parent Service whose members are undergoing the training, and deals in less detail with resources and funds required by the Service which conducts the training. For example, Navy personnel being trained by the Air Force are treated in this report as part of the Navy military student training load, since they are being trained to fill Navy requirements. However, in budget documents, funds to conduct training for these students, who are a part of the Air Force training workload, are included in Air Force appropriation requests.

Definitions of Major Training Categories

The portion of this report which discusses training loads in detail is organized into five chapters (Chapters III through VII), each of which addresses one of the major categories of training. These major categories are briefly defined below. Each chapter will more fully describe the training category and its sub-categories, the requested training loads, and the training methodology.

Recruit Training includes the basic introductory physical conditioning, military, and indoctrination training given to all new enlisted entrants in each of the Services. One-Station Unit Training (OSUT) is an Army training program which meets the training objectives of both Recruit and Specialized Skill Training in certain skills through a single course for new Service entrants which is conducted by a single training unit. Since it includes elements of two categories of training, it is treated separately in this report.

Officer Acquisition Training, sometimes called pre-commissioning training, includes all types of education and training leading to a commission in one of the Services, such as the programs of the Service Academies and officer candidate schools. Students not in active military status, such as Reserve Officer Training Corps students, are excluded from requested loads in this report.

Specialized Skill Training provides officers and enlisted personnel with new or higher levels of skill in military specialties or functional areas to match specific job requirements.

This category includes Army Advanced Individual Training and Navy Apprenticeship Training. Certain flight-related training, such as

training of air traffic controllers and some aircraft mechanics, and survival training in the Air Force, is reported under Specialized Skill Training. None of the officer acquisition programs are included in Specialized Skill Training.

Flight Training provides the individual flying skills needed by pilots, navigators, and naval flight officers to permit them to function effectively upon their assignment to operational mission units. The Service undergraduate flight training programs culminate in an officer, or an Army warrant officer, receiving "wings" and being categorized as a "designated" or "rated" officer.

The undergraduate programs do not include the major formal advanced flight training programs. Training conducted by Service advanced flight training organizations is not considered individual training and is therefore beyond the scope of this report.

Professional Development Education includes educational courses conducted at the higher-level Service schools or at civilian institutions to broaden the outlook and knowledge of senior military personnel or to impart knowledge in advanced academic disciplines to meet Service requirements. Training of this type is required to prepare individuals for progressively more demanding assignments, particularly for higher command and staff positions. Programs include undergraduate and graduate education and other courses not leading to a degree.

Enlisted leadership training for senior non-commissioned officers is included in Professional Development Education rather than in Specialized Skill Training to recognize its broad professional content. However, Navy leadership training, which is given to all grades of petty officers, is included in Specialized Skill Training, as is the rest of noncommissioned officer training for more junior personnel conducted by the other Services.

Determining Training Requirements and Training Load

The amount and type of training to be conducted in the Department of Defense is the product of a series of calculations that is described in Appendix A to this report.

In brief, the process begins with the determination of the requirement for military personnel with specific skills to fill positions in the approved or projected force. The requirement for trained manpower must then be measured against the available inventory of trained personnel projected at various points in the future. This comparison, made for each military skill and skill level, establishes the need for the training of personnel, on a phased basis, to fill current and projected skill shortages. The requirement for the training of personnel on a schedule calculated to maintain the skill inventory becomes the workload of the Service training establishments. It is measured in terms of the average military training student load, or "training load". The training load

for a given period is not only a measure of the amount of training to be accomplished; but, adjusted to take account of the Service conducting the training, it becomes a "workload" and thus it is also a basis for establishing the requirement for resources (manpower, funds, materiel and facilities) needed to support the training to be conducted by a Service.

Conceptually, the training load for a given period is the average student strength for the period, and approximates many years. The total training load is the sum of the loads for all the included individual courses. Training loads for individual courses are determined by the following factors:

1. The length of the training course.
2. The desired number of graduates, or output, of the course.
3. The number of entrants, or inputs, into the course required to obtain the desired output. This, in turn, depends on the pattern of attrition, or failures of entrants to graduate, for the course.

If attrition occurs at a constant rate during a course, the training load is computed by the following formula:

$$\frac{\text{Entrants} + \text{Graduates}}{2} \times \text{Course Length (expressed as a fraction of a year)} = \text{Load}$$

This is the basic method for computing the training loads discussed in this report. However, if attrition does not occur at a uniform rate, as is frequently the case, and the rate and phasing can be specified, more complex formulas and computer simulations are used to estimate training loads.

Accuracy in Projecting Training Loads

In accordance with law, training load authorizations must be requested well in advance of the period when the training is actually conducted. This year, for example, in addition to the more refined estimates of loads needed for FY 1987, load authorizations must be requested for the fiscal year which begins more than a year after the request is submitted -- that is, loads for FY 1988, beginning October 1, 1987, must be requested in the spring of 1986. This statutory requirement implies the capability to predict future training loads with precision. In actuality, while loads for some long-leadtime programs, such as the Service Academies, can be predicted with considerable accuracy, there are many uncertainties in projecting training loads. Some of the causes of uncertainty are:

1. Unpredictability of individual decisions to enlist or re-enlist; this factor may lead to unanticipated changes in the skill

inventory, requiring changes in the composition or size of training loads, or to shifts of portions of the training load from one fiscal period to the following period.

2. Unanticipated changes in force structure, requiring a readjustment of the skill inventory and the mix of courses in the training load.

3. Changes in attrition rates and patterns, causing unprogrammed fluctuations in training rates and loads.

By forecasting training needs as far as possible into the future and continuously reviewing and adjusting training inputs and loads, the Services are able to adapt the training system to changing conditions. However, it should be clear that extended projections are subject to error; adjustments are inevitable and, in fact, necessary for good management.

Training Load Request by Component and Category

The tables on the following two pages display in category detail the requested training loads for FY 1987 and FY 1988. The loads for each period are displayed by component and by each of the major categories of training.

TABLE I-1.--Military Training Student Loads, Fiscal Year 1987, By Component and Major Training Category

	<u>Recruit Training</u>	<u>One-Station Unit Training</u>	<u>Officer Acquisition Training</u>	<u>Specialized Skill Training</u>	<u>Flight Training</u>	<u>Professional Development Education</u>	<u>Total</u>
<u>Active Forces</u>							
Army	12,282	11,236	5,883	42,111	1,200	4,046	76,758
Navy	15,011	-	6,817	45,467	2,001	3,187	72,483
Marine Corps	7,657	-	310	10,092	503	871	19,433
Air Force	<u>7,923</u>	<u>-</u>	<u>5,780</u>	<u>23,336</u>	<u>2,965</u>	<u>3,907</u>	<u>43,911</u>
Subtotal	42,873	11,236	18,790	121,006	6,669	12,011	212,585
<u>Reserve Components</u>							
Army Reserve	3,699	2,161	8	9,711	186	93	15,858
Army National Guard	3,624	5,752	40	8,562	234	50	18,262
Naval Reserve	1,568	-	0	1,873	0	52	3,493
Marine Corps Reserve	2,013	-	207	1,689	0	35	3,944
Air Force Reserve	415	-	17	1,587	62	46	2,127
Air National Guard	<u>541</u>	<u>-</u>	<u>0</u>	<u>2,764</u>	<u>216</u>	<u>45</u>	<u>3,566</u>
Subtotal	11,860	7,913	272	26,186	698	321	47,250
Total	54,733	19,149	19,062	147,192	7,367	12,332	259,835

TABLE I-2.--Military Training Student Loads, Fiscal Year 1988, By Component and Major Training Category

	<u>Recruit Training</u>	<u>One-Station Unit Training</u>	<u>Officer Acquisition Training</u>	<u>Specialized Skill Training</u>	<u>Flight Training</u>	<u>Professional Development Education</u>	<u>Total</u>
<u>Active Forces</u>							
Army	11,955	11,591	5,920	43,085	1,376	4,014	77,981
Navy	15,089	-	7,061	45,712	2,022	3,282	73,166
Marine Corps	8,414	-	310	10,070	510	878	20,182
Air Force	<u>8,047</u>	<u>-</u>	<u>5,905</u>	<u>23,496</u>	<u>2,943</u>	<u>3,922</u>	<u>44,313</u>
Subtotal	43,545	11,591	19,196	122,363	6,851	12,096	215,642
<u>Reserve Components</u>							
Army Reserve	3,833	1,961	8	10,143	230	86	16,261
Army National Guard	3,696	5,858	40	8,765	260	52	18,671
Naval Reserve	1,579	-	0	1,851	0	52	3,482
Marine Corps Reserve	1,988	-	207	1,760	0	36	3,991
Air Force Reserve	418	-	18	1,584	61	46	2,127
Air National Guard	<u>541</u>	<u>-</u>	<u>0</u>	<u>2,753</u>	<u>206</u>	<u>45</u>	<u>3,545</u>
Subtotal	12,055	7,819	273	26,856	757	317	48,077
Total	55,600	19,410	19,469	149,219	7,608	12,413	263,719

II

TRAINING PATTERNS

General Description

The development of servicemembers through formal training, education, and practical experience generally follows a common pattern. The new servicemembers (or, in the case of some Officer Acquisition Training,

the prospective servicemembers) first receive training designed to develop the basic attributes of all members of their Service. In most cases, the graduate of the initial training is then taught the skills required for a military job at the lowest skill level. Those servicemembers who do not remain beyond their initial enlistments or obligated terms of service do not, in most cases, receive additional formal training. Those who remain, the career members, will further develop their military knowledge and skills through experience in military jobs, interspersed, as required, with training or education needed to prepare them for more responsible positions. During any part of their terms of service, military personnel are also encouraged, as their military assignments may permit, to improve their educational attainments to the benefit of themselves and their Services through off-duty and voluntary education programs that may be available. This combination of job experience, training and education is essential to the development of a military force that is capable of carrying out the national security mission.

Enlisted personnel usually work in relatively specialized skill fields, whereas the duties of officers, particularly of those in the career force, call for broader expertise. For these reasons, the training and education patterns of officers and enlisted personnel differ, and will be discussed separately in the following sections of this chapter.

Officer Training Patterns

Each Service has developed career patterns to prepare its officers to assume progressively higher command and staff responsibilities. These career patterns are composed of operational assignments, during which the officers learn their professions through experience, and periodic individual training and education, which provide them with knowledge and skills needed for progressively more demanding subsequent assignments.

Officer training and education can be divided generally into three types. First, each Service maintains a system of professional military education that is progressive in nature. This education is related more to the increasing responsibilities associated with career progression to more senior grades than to the individual's current assignment or specialty. It is primarily the study of officership and the command and staff knowledge required of all professionals. The second type of

education and training includes the many specific skill-producing courses that are conducted to enable the officer to perform immediately upon assignment to a specialized or functional area. These courses vary in length from a few days to several months. They present, for the most part, strictly job-oriented training, and are often in the nature of orientation or refresher courses. Third, the Services also provide selected officers with advanced academic education, either in-house or at civilian institutions, to meet specific requirements for officers educated in technical, scientific, engineering, and managerial fields. Officers also participate in a variety of other educational programs, many on a part-time basis, usually with the student sharing in the cost.

Training and education for career officers, involving one or more of the types of training and education described above, follow the general patterns outlined in the following paragraphs. The patterns vary among the Services to some extent, and not all officers will participate in all of the schooling described. The number of officers participating in schooling becomes progressively smaller, and participation more selective and demanding, as officers move through their careers.

Non-career officers (those who may be expected to serve only an initial tour of active duty) generally receive training only at the entry level. In some cases, they may receive skill-oriented courses such as pilot training, which is lengthy and results in a commensurately longer active duty obligation, or training as maintenance or communications officers.

Entry Level Training. Upon entry, the young officers' initial training is Service-oriented and intended to prepare them for duties at the lowest operational level -- company, squadron, or ship. The newly commissioned Army officers will attend a basic course conducted by the particular branch of the Army to which they are assigned, such as infantry, armor or artillery. Navy ensigns are usually assigned to school training based on their warfare specialty. All newly commissioned Marine officers attend The Basic School. A newly commissioned officer in the Air Force may go to Flight Training or training in a technical specialty.

Career Training. After some operational experience, the career officer requires further professional military education to prepare for service at the next level -- for example, as a unit commander or a headquarters staff officer. In the Army, this entails a return to branch school for more advanced training. An Air Force officer could be selected for the Squadron Officer School. A Marine Corps officer would normally attend the Amphibious Warfare School. Navy officers at this stage in their careers may attend a school in a specialty appropriate to their future assignments.

To satisfy Service requirements and as a further step in professional development, some officers are selected for participation in an advanced academic educational program at a civilian institution or one of the two Service technical institutes, the Naval Postgraduate School and the Air Force Institute of Technology.

Intermediate Service Schools. As officers progress (between six and 16 years of service, depending on Service criteria) they are ready for the next, or command and staff, level of professional military education in preparation for assuming higher responsibilities. Attendance is competitive, as not all officers are selected to attend. Each Service has such a course; the Armed Forces Staff College, a joint school, is also conducted at this level. Each Service has its own emphasis with regard to this schooling because of its pattern of missions; these differences are reflected in the school curricula.

Senior Service Colleges. Subsequent to the intermediate years, little technical training is provided. The final level of professional military education is that of the Senior Service Schools -- the war colleges -- for which attendance is highly selective. The Army, Navy, and Air Force each has a war college. In addition, there is the National Defense University, consisting of the National War College and the Industrial College of the Armed Forces. Officers graduating from the Senior Service Schools have the academic foundation required for command and staff positions at the highest level. The different curricula of these schools reflect the differing patterns of missions among the Services.

Enlisted Training Patterns

Individuals entering upon an initial enlistment are provided Recruit Training that introduces them to military life. Following this indoctrination training, they will follow one of three possible avenues:

1. Initial Skill Training, which prepares the enlistee for an initial duty assignment, or
2. Direct duty assignment on the basis of a skill already acquired in civilian life, or
3. Direct assignment to first duty unit for on-the-job training (OJT).

The Army One-Station Unit Training (OSUT) program is a variation of the first of these three avenues, since it combines Recruit and Initial Skill Training into a single course, followed by assignment to an operational unit. About 34 percent of Active Army entrants to initial enlisted training will be trained under the OSUT in FY 1987. For the Reserve Components, 38 percent of the Army entrants will receive OSUT.

The expected distribution of Active Recruit Training graduates in FY 1986 is shown in Table II-1.

TABLE II-1.--Disposition of Active Recruit Training Graduates in FY 1986

	<u>Army</u>	<u>Navy a/</u>	<u>Marine Corps</u>	<u>Air Force</u>
To Initial Skill Training	99%	94%	95%	94%
To Duty Assignment (Civilian-Acquired Skill)	*	*	*	*
To Duty Assignment (On- the-Job Training)	1%	6%	5%	6%
	100%	100%	100%	100%

*Less than 1 percent.

a/ 22% of Navy Recruit Training graduates attend short "Apprenticeship Training" courses (carried under Initial Skill Training in this report) as a preliminary to further training on the job.

As the table indicates, most enlisted personnel receive formal Initial Skill Training to provide them with a basic military skill. The combination of Recruit Training and Initial Skill Training (or Army One-Station Unit Training) is the foundation of the development of enlisted personnel, because it turns civilians into servicemembers who are qualified to fill positions in military units.

Due to the decrease in Air Force accessions in recent years -- down from 70,100 in FY 1984 to 65,000 in FY 1986, and 64,000 in FY 1987 -- and the increase in complexity of Air Force systems and jobs which require formal training, the percent of active duty recruit graduates going to technical school has increased from 93 percent in FY 1986 to 95 percent in FY 1987. This trend is expected to continue.

Other than for on-the-job training in the work environment, enlisted personnel normally receive no further formal skill training beyond the training previously described during their initial enlistments. The major exception is Navy training, conducted by fleet training centers, in such shipboard duties as firefighting.

Subsequent to reenlistment, individuals may be selected for attendance at a journeyman level course in their specific occupational areas. This training emphasizes the appropriate military applications for the skills being taught. In most cases, however, enlisted personnel advance in their skill areas through experience gained on the job and without extensive additional formal training. Some enlisted personnel are given the opportunity to attend NCO professional development training programs which prepare them for increased supervisory and leadership responsibilities.

Normally, few enlisted personnel attend regularly programmed specialized courses after mid-career. There are instances, of course, where new equipment or systems are introduced into a Service, and senior level

enlisted personnel are formally trained in operation and maintenance techniques. Selected senior enlisted personnel attend schools, such as the Army's Sergeants Major Academy, which are, on the NCO level, similar in purpose to the Intermediate and Senior Service Schools in the officer education system.

III

RECRUIT TRAINING AND ARMY ONE-STATION UNIT TRAINING

General Description

Recruit Training is the basic introductory and indoctrination training given to enlisted personnel of each Service upon their initial entry into military service. Recruit Training provides an orderly transition from civilian to military life, motivation to become a dedicated and productive member of the service, and instruction in the basic skills that are required by all members of the Military Service involved. Training in each of the Services emphasizes discipline, observance of military rules, social conduct, physical conditioning, and the building of self-confidence and pride in being a member of the service. Beyond these common objectives, Recruit Training in each Service is designed to meet the particular training requirements of that Service which are a reflection of the Service mission. Graduates of Recruit Training have the basic knowledge and skills required to qualify them, after formal or on-the-job training in a particular skill, for service in an operational unit of the parent Service.

Army One-Station Unit Training (OSUT) is unique in that it combines Recruit Training and Initial Skill Training in certain skills into a single course conducted by a single training unit at a single training installation. OSUT therefore includes elements of two major training categories; consequently, it is treated separately at the end of this chapter. OSUT training loads are not included within the Recruit Training loads displayed in this chapter.

Recruit Training Loads

The training loads for FY 1979 through FY 1987 for each component of each Military Service are shown in Table III-1 on the following page.

TABLE III.--RECRUIT TRAINING LOADS, FY 1979-87 a/

<u>Service Component</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Army b/</u>									
Active	9,141	10,453	9,831	10,533	12,726	12,366	10,853	13,378	12,282
Reserve	2,062	2,339	2,959	4,378	3,687	3,688	3,621	4,651	3,699
Natl Guard	2,707	2,661	2,835	3,590	3,184	2,818	3,113	3,746	3,624
<u>Navy</u>									
Active	12,440	13,597	14,288	13,315	12,816	12,780	13,166	14,424	15,011
Reserve	294	290	339	312	305	1,385	1,626	1,512	1,568
<u>Marine Corps</u>									
Active	9,859	10,166	9,691	9,434	8,555	9,459	8,340	7,826	7,657
Reserve	1,446	1,623	2,013	2,031	1,977	2,045	2,041	2,105	2,013
<u>Air Force</u>									
Active	7,712	8,872	9,423	8,361	7,411	6,727	8,047	8,047	7,923
Reserve	249	297	368	397	376	343	363	412	415
Natl Guard	426	677	740	749	575	540	555	541	541
<u>DoD</u>									
Active	39,152	43,088	43,233	41,643	41,508	41,332	40,406	43,675	42,873
Res/Gd Tot	<u>7,184</u>	<u>7,887</u>	<u>9,254</u>	<u>11,457</u>	<u>10,104</u>	<u>10,819</u>	<u>11,319</u>	<u>12,967</u>	<u>11,860</u>
DoD Total	46,336	50,975	52,487	53,100	51,612	52,151	51,725	56,642	54,733

a/ In this table and in all subsequent tables in this report, training loads for the years prior to and including FY 1985 data are actual, FY 1986 and subsequent year data are estimated.

b/ Data do not include Army One-Station Unit Training loads.

Recruit Training

The following table displays for Recruit Training the average training loads for each year from FY 1985 to 1987 and, for FY 1987, the number of entrants (input) and number of graduates (output). Data are shown separately for each component of each Service.

TABLE III-2.--Training Inputs, Outputs, and Loads, Recruit Training
FY 1985 - 87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	10,853	13,378	81,716	71,814	12,282
Reserve	3,621	4,651	25,515	22,483	3,699
Natl Guard	3,113	3,746	24,140	21,170	3,624
<u>Navy</u>					
Active	13,166	14,424	100,744	91,702	15,011
Reserve	1,626	1,512	10,000	8,762	1,568
<u>Marine Corps</u>					
Active	8,340	7,826	31,747	28,423	7,657
Reserve	2,041	2,105	8,400	7,382	2,013
<u>Air Force</u>					
Active	8,047	8,047	64,000	58,880	7,923
Reserve	363	412	3,597	3,310	415
Natl Guard	555	541	5,010	4,692	541
<u>DoD</u>					
Active	40,406	43,675	278,207	250,819	42,873
Res/Gd Tot	<u>11,319</u>	<u>12,967</u>	<u>76,752</u>	<u>67,799</u>	<u>11,860</u>
DoD Total	51,725	56,642	354,959	318,618	54,733

Each of the Services conducts training for women recruits that is similar in concept to Recruit Training for males. The training syllabi are essentially the same for males and females. In the Navy and Marine Corps, male and female Recruit Training is collocated but not integrated. The major difference between these male and female courses is that women recruits generally receive less training in weapons use and other combat oriented skills. The de-emphasis on combat skills in the Marine Corps causes the length of training for women to be somewhat shorter.

Rationale for Recruit Training

The underlying philosophy of Recruit Training in each of the Services is that the demands of military service are fundamentally different from those of civilian life. Military service requires a high level of discipline and physical fitness, a homogeneity of outlook, and an ability to live and work as part of a highly structured organization. There are few parallels in civilian society to the demands of military service. Each recruit, therefore, must be transformed into a member of the military team in order to function effectively in the military environment. The attitudes, habits, and basic skills formed in Recruit Training are the foundation of a cohesive military organization. Later training provides the skills and knowledge needed for specific jobs; Recruit Training shapes the civilian entrants into dedicated members of their Military Services with the potential for further development.

The major determinants of Recruit Training loads are the total number of people entering service who must receive Recruit Training (input), the length of the training course, and projected patterns of attrition. Course length and attrition are discussed later in this chapter. The following two sections discuss inputs: first, inputs of active duty personnel, and second, inputs of members of the Reserve Components on active duty for initial training.

Active Duty Input

The annual recruiting objective for active duty enlistees without prior military service is a function of the following factors:

1. The projected requirement for trained enlisted personnel.
2. Current enlisted trained strengths.
3. Number of enlisted personnel currently in training.
4. Projected enlisted losses through separations or other reasons (e.g., desertion, death, acceptance of a commission, etc.).
5. Projected prior-service enlistments -- that is, the return from civilian life of former service-members.

"Trained strength" is the number of personnel required to fill "structure" spaces (i.e., positions in military organizations that require specific grades and skills) and individual "pipeline" spaces, such as transients en route between assignments. The Defense Manpower Requirements Report contains a full discussion of how military manpower requirements are determined. The projected trained strength requirement is compared with the projected trained strength inventory to forecast future skill and strength imbalances. Future shortages that are not expected to be satisfied either by prior-service enlistees or service-members currently in skill training courses determine the training output needed to man the force with trained personnel. To determine the necessary input to achieve this output, allowance must be made for course attrition, the number of students entering a course of instruction who fail to complete it. The total input requirement must, therefore, be increased to compensate for expected attrition losses.

The optimal leveling of monthly inputs to obtain the most efficient use of training staff personnel and training facilities is a continuing goal. However, the phasing of inputs must at times be varied in order to take advantage of the best recruiting periods for maintaining quality and quantity.

Historically, June through September and January have been the most productive recruiting months, reflecting behavioral patterns that are related to the civilian academic calendar. Enlistments increase (1) shortly after high school graduation, (2) when peers return to school in the fall, and (3) after the results of the first term academic work are announced.

The Services must accept most prospective enlistees at the time they are ready to enter service. Requiring enlistees to enter military service in phase with requirements and on an even-flow basis would result in the loss of many potential enlistees to other sources of employment. Accepting enlistees as they become available, however, requires a training structure capable of accommodating peak surges of enlistments.

Reserve Component Input

Persons enlisting in the National Guard and Reserve forces without active duty experience require the same Recruit Training as active duty enlistees, and for the same reasons. Recruit Training loads for the Reserve Components are based on the same factors as active force loads. Guard and Reserve trainees, while in Recruit Training, are mingled with active duty trainees in units so that their training is identical.

Reserve Component recruits form a significant part of the workload of the active Recruit Training establishment. In FY 1987, 22 percent of DoD Recruit Training loads are attributable to Guard and Reserve trainees.

The planning considerations for Reserve Component personnel are essentially similar to those for the active force; detailed phasing of this training is complicated, however, by the additional consideration of civilian employment or school commitments for these personnel. For this reason, a pool of personnel who have been enlisted but who have not yet been able to attend entry training is normal. It is important that this backlog is kept within a reasonable size.

Course Length and Course Content

Enlisted training loads depend not only upon the numbers of entrants but also on the extent of skills required of entering enlisted personnel by each Service. Enlisted personnel attain those skills in Recruit Training and in Specialized Skill Training. Specialized Skill Training is discussed in a subsequent chapter. Recruit Training course lengths are determined in part by how much of the required training is to be provided during the Recruit Training phase and how much is to be deferred to later training. The four Services, because of differences in their missions, take somewhat different approaches in establishing the content and length of their Recruit Training courses.

Recruit Training in each of the Services covers four areas: (1) some processing and testing; (2) introduction into Service life; (3) instruction in military courtesy, discipline, and hygiene; and (4) fundamental military-related training involving physical fitness, military drill, and self-defense. In addition, each Service provides training in military skills that should be possessed by all, or almost all, members of that Service. The degree to which these Service-wide required skills exist differs widely among the Services. This factor accounts for most of the differences in course content and, therefore, course length. The variance in quality of enlistees among the Services also has a bearing on course length; recruits with lower intelligence and lesser amenability to discipline require a longer training period to achieve training objectives.

The length of the standard Recruit Training course in each Service is shown in the following table:

TABLE III-3.--Recruit Training Course Lengths, FY 1987 (Weeks)

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
8.0	7.3	10.3	6.0

Army and Marine Corps Recruit Training differ from the Air Force and Navy programs because all recruits are given intensive physical conditioning and instruction in basic ground combat skills, including the use of individual weapons. These Services subscribe to the view that all enlisted personnel must achieve a basic level of qualification in ground combat skills, and their Recruit Training curricula provide a common core of training in these skills.

In FY 1985 the Marine Corps increased female recruit training from 48 training days to 56 training days. Since women Marines serve in many different units and military occupational specialties, their exposure to danger in a hostile environment cannot be precluded. Consequently, female recruit training was increased in length to provide training in defensive techniques and operations.

The Air Force accomplishes all Recruit Training in six weeks. Course content concentrates on indoctrination subjects. Relatively little training in Service-wide skills is provided, since there are few common skills needed by all Air Force enlisted personnel. In addition to subjects oriented toward indoctrinating recruits to military life, the Navy course includes phases designed to prepare them for conditions in a fleet environment. The Navy must be sure that recruits learn to live, work, and fight in restricted space such as they will find on board ship, often close to complex machinery and weapons.

The average length of time spent in recruit status in any of the Services may be longer than the standard course lengths discussed above. Some recruits fall behind their peers because of illness. Others require remedial training. If this cannot be accomplished by additional instructional hours the recruit may be sent to a special training unit or recycled to a following class to repeat a portion of the course.

The common objective of transforming a civilian into a disciplined servicemember tends to set a floor under the length of Recruit Training in each of the Services. Relatively few recruits have had much experience with life in a disciplined environment, been separated from their families and friends, or subjected to the stresses imposed by military life. Compensating for these factors takes not only training but also time. A minimum of six weeks in Recruit Training appears necessary to accomplish this objective alone in any of the Services. Greater amounts of time are required for those Services that must provide extensive training in required common skills.

Attrition in Recruit Training

A final factor in the computation of loads is the projection of the rate and timing of attrition. Recruits may fail to complete training for medical reasons, inability to absorb the instruction, lack of motivation, disciplinary problems, or a variety of administrative causes, such as discharge for fraudulent enlistment or family hardship. Table III-4 shows projected attrition losses for FY 1986 and FY 1987.

TABLE III-4.--Recruit Training Attrition Projections, FY 1986 and FY 1987
(Active and Reserve Combined)
(Percent)

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
FY 86	11.8%	9.7%	14.0%	8.0%
FY 87	12.1%	9.7%	14.0%	8.0%

The timing of attrition varies from case to case. In the case of slow learners or individuals who have difficulty in adjusting to military life, trainees usually are reentered or given special instruction; those who do not respond adequately may not become attrition losses until late in the course.

Air Force attrition was increased to eight percent in FY 1987 to reflect actual losses recently experienced. The Air Force predicts attrition will remain at eight percent even though non-prior service accessions have decreased to 64,000 and will climb back to 65,000 in FY 1987 and beyond.

Army One-Station Unit Training

The Army's One-Station Unit Training (OSUT) program combines Recruit Training and Initial Skill Training for certain skills into a single continuous course. Consequently, this report treats OSUT separately rather than arbitrarily breaking it into two segments.

OSUT loads for FY 1981 through 1987 are shown in the following table.

TABLE III-5.--OSUT Training Loads, FY 1981-87

<u>Service</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Component</u>							
<u>Army</u>							
Active	15,003	13,137	15,657	14,192	11,883	12,392	11,236
Reserve	2,042	1,965	2,717	1,923	1,861	2,509	2,161
Natl Guard	<u>6,580</u>	<u>5,528</u>	<u>5,860</u>	<u>4,873</u>	<u>5,278</u>	<u>6,320</u>	<u>5,752</u>
Res/Gd Tot	<u>8,622</u>	<u>7,493</u>	<u>8,577</u>	<u>6,796</u>	<u>7,139</u>	<u>8,829</u>	<u>7,913</u>
DoD Total	23,625	20,630	24,234	20,988	19,022	21,221	19,149

Table III-6 displays OSUT inputs and outputs, as well as loads, for FY 1987.

TABLE III-6.--Training Inputs, Outputs, and Loads, OSUT, FY 1985-87

<u>Service</u> <u>Component</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	11,883	12,392	42,769	38,188	11,236
Reserve	1,861	2,509	10,236	9,264	2,161
Natl Guard	5,278	6,320	26,571	24,088	5,752
Res/Gd Total	<u>7,139</u>	<u>8,829</u>	<u>36,807</u>	<u>33,352</u>	<u>7,913</u>
DoD Total	19,022	21,221	79,576	71,540	19,149

In FY 1976, less than five percent of Army non-prior service entrants were trained under OSUT. In FY 1987, about 38 percent of active Army entrants to recruit training will be trained by this method. In FY 1987 there will be 38 different courses in OSUT that relate to Initial Skill Training. OSUT requires less training time than the separate Recruit Training and Initial Skill Training courses that it replaced.

The following table shows training time for OSUT courses.

TABLE III-7.--OSUT Training Time, FY 1985-87

<u>Skill Area</u>	<u>Training Time (Weeks)</u>		
	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Infantry	12.7	12.7	12.7
Artillery	13.6	13.5	13.5
Armor	13.7	13.7	13.7
Engineer	14.1	14.1	14.1
Military Police	15.5	17.0	17.0
Air Defense	14.5	15.1	15.1

The time that would be required to complete Recruit Training and the Initial Skill Training in separate courses for these skills would be about 4 weeks longer, including the time required to move the trainee from one training organization to another. The shorter OSUT course lengths provide a significant savings in trainee manyears and, consequently, in trainee pay, allowances, and support costs. Moreover, the Army's extensive tests of OSUT indicate that the quality of OSUT graduates is generally as good as the quality of personnel trained under the longer two-course training system.

IV

OFFICER ACQUISITION TRAINING

General Description

Officer Acquisition Training consists of training and education programs leading to a commission in one of the Military Services. These programs fulfill the need both for junior officer entrants into the career force and for non-career junior officers in the force structure. Officer Acquisition Training programs produce officers for both the active forces and the Reserve Components.

Training loads for Officer Acquisition Training are shown in Table IV-1 on the following page.

TABLE IV-1.--Total Officer Acquisition Training Loads, FY 1979-87

<u>Service</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Component</u>									
<u>Army</u>									
Active	4,776	4,741	4,636	4,850	4,809	5,222	6,324	5,931	5,883
Reserve	3	5	4	4	3	4	9	8	8
Nat'l. Guard	47	42	44	49	27	44	41	40	40
<u>Navy</u>									
Active	5,873	5,661	6,389	6,498	6,497	6,446	6,678	6,853	6,817
Reserve	35	29	12	31	0	0	0	0	0
<u>Marine Corps</u>									
Active	269	249	268	281	432	294	289	271	310
Reserve	309	224	264	309	302	187	188	207	207
<u>Air Force</u>									
Active	5,816	6,032	5,776	6,050	6,555	6,457	6,230	5,953	5,780
Reserve	8	10	13	12	19	15	15	20	17
Nat'l. Guard	0	0	0	0	0	0	0	0	0
<u>DoD</u>									
Active	16,734	16,683	17,069	17,679	18,293	18,419	19,521	19,008	18,790
Res/Gd Total	402	310	337	405	351	250	253	275	272
DoD Total	17,136	16,993	17,406	18,084	18,644	18,669	19,774	19,283	19,062

Excluded ROTC and Health Professions Acquisition Programs

The total loads in Table IV-1 do not include two types of Officer Acquisition Training: the Army, Navy, and Air Force Reserve Officers Training Corps (ROTC) programs and the Armed Forces Health Professions Scholarship program. ROTC and Health Professions Scholarship students are not in active military status, whereas students who make up the training loads discussed in this report are either members of the active forces or members of the Reserve Components being trained on active duty by the active establishments. Although these two programs are not included in the requested training loads, they are discussed in this chapter to provide a complete account of Officer Acquisition Training. The following tables show the number of participants in these programs in the period FY 1985 through 1987.

TABLE IV-2.--Average Enrollees, Senior ROTC Programs, FY 1985-87

<u>Service</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>
Army	65,897	70,857	70,846
Navy	10,135	10,916	10,943
Air Force	23,839	24,020	24,398
DoD Total	99,871	105,793	106,187

TABLE IV-3.--Health Professions Scholarships, FY 1985-87

<u>Service</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>
Army	1,322	1,248	1,250
Navy	1,058	1,051	982
Air Force	1,301	1,307	1,314
DoD Total	3,681	3,606	3,546

The figures shown above for Health Professions Scholarships are actuals for FY 1985; the FY 1986 and 1987 figures are those currently authorized by DoD to each Service from the total of 5,000 authorized scholarships.

Junior ROTC is a program designed to develop leadership qualities, good citizenship, and an understanding of the basic elements of national security among high school students. Despite its name, it is not an officer acquisition program, since it does not result in a commission and its participants have no military obligation whatsoever. Junior ROTC is not included within training loads covered by this report.

Officer Requirements and Structuring the Officer Acquisition Program

Requirements for new officers, like requirements for new enlisted personnel, are a product of the need for officers in the projected force

as compared to the projected future inventory of officers. Properly functioning programs fill the gross requirements for officer entrants for any given year, and provide an even flow of sufficient new officers to each Service to avoid the emergence of unmanageable shortages and overages by age and grade in the future. Each of the Services uses a mix of sources for new officers.

The mix of officer acquisition programs used must recognize the characteristics of each source. Some of the differing characteristics of current programs are stable input, long lead-time; flexible inputs, short lead-time; high academic quality with comprehensive military indoctrination; and high level of technical skill. Additionally, consideration must be given to each program's ability to attract applicants, the quality of the graduates, and their probable retention and attrition. These differences and others must be recognized and exploited in planning officer procurement.

The Service Academies present a long lead-time program that produces a significant proportion of highly trained career military officers.

ROTC is also a long lead-time program and provides the largest single input of officers to the active duty force, although many of these officers will leave active duty and join the Reserve Components. In this manner, ROTC provides officers to support the total force, both active and reserve.

Officer Candidate Schools provide the short lead-time commissioning source necessary to respond to immediate surges in officer requirements, since the programs can be expanded or reduced in a relatively short period of time.

The off-campus commissioning programs, such as the Marine Corps Platoon Leader Corps (PLC) program, are long lead-time programs, and provide the student at virtually any four-year college or university the opportunity to earn a commission through summer training but without military responsibilities during the school year. Finally, Other Enlisted Commissioning Programs are long lead-time in nature, and provide a source of officers who possess specific technical skills and who have a proven high rate of retention.

In addition to these reasons for using a variety of sources to satisfy officer requirements, it is also desirable to use different sources to keep the officer corps from being restricted to a narrow segment of the national population and to provide opportunities for highly qualified enlisted personnel.

Officer Acquisition Training may be divided into six separate programs:

- Service Academies
- ROTC
- Officer Candidate Schools
- Off-Campus Commissioning Programs
- Enlisted Commissioning Programs
- Health Professions Acquisition Programs

Service Academies

The mission of each of the Service Academies (United States Military Academy, United States Naval Academy, and United States Air Force Academy) is to meet a portion of the long-range requirement for career military officers. They provide instruction and experience to cadets or midshipmen so that they graduate with the knowledge and character essential to leadership and with the motivation to become career officers. Cadets and midshipmen participate in a four-year program of academic studies and training in leadership and other military subjects. Successful completion of the specified academic and military requirements entitles the graduate to a Bachelor of Science degree and a Regular commission in one of the Military Services. Up to one-sixth of Naval Academy graduates in each year may be commissioned in the Marine Corps.

The Service Academies are distinctive among the collegiate institutions of the nation in that their curricula are specifically designed to prepare young men and women for service as professional officers. The total curriculum at each Academy is designed to develop the qualities of character, intellect, and physical competence needed by the officer who may, in the course of a full career, be called upon to perform duties ranging from leading a small combat unit to advising the highest government councils. The programs include the sciences, the humanities, and military and physical training, and form the basis for further professional development or, when required, graduate education.

The enrollment of each of the Service Academies is established by law. This fact establishes stable training loads for the Academies. Training load data for the Service Academies are shown in Table IV-4.

TABLE IV-4.--Training Inputs, Outputs, and Loads, Service Academies,
FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Army	4,286	3,956	1,325	940	3,915
Navy	4,326	4,343	1,330	1,031	4,310
Air Force	4,222	4,228	1,450	920	4,228
DoD Total	12,834	12,527	4,105	2,891	12,453

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- 1031
3312

Each of the Military Departments sponsors an Academy preparatory school. Marine Corps personnel attend the Navy school. The missions of these schools are to provide intensive instruction and guidance, in courses of instruction approximating one academic year, to selected enlisted personnel in preparation for entry to the Service Academies. Students compete for appointments by the Secretaries of the Military Departments and from other sources. The Naval Academy Preparatory School also provides instruction to candidates for the Marine Corps Enlisted Commissioning Education Program during the summer months. Training load data for the Academy preparatory schools is shown in Table IV-5.

TABLE IV-5.--Training Inputs, Outputs, and Loads,
Academy Preparatory Schools, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Army	226	241	340	221	241
Navy	170	176	281	192	174
Marine Corps	8	9	15	11	11
Air Force	<u>210</u>	<u>210</u>	<u>260</u>	<u>190</u>	<u>210</u>
DoD Total	614	636	896	614	636

ROTC Programs

ROTC is a long lead-time program which is the single largest source of officers for the Armed Forces. Like the Service Academies, ROTC is used to provide a relatively constant input of officers for active duty, but ROTC also provides non-career officers as well as career officers. The program is currently conducted at over five hundred civilian colleges and universities throughout the nation. The Army, Navy, and Air Force each sponsor an ROTC program; up to one-sixth of the Navy graduates may be commissioned in the Marine Corps. Scholarships and subsistence allowances authorized by law, in addition to conventional recruiting and advertising methods, are used to attract qualified students. Scholarships are awarded to young **men** and women who exhibit potential ability and interest in fields of projected Service needs.

There are both scholarship and non-scholarship, as well as two-year and four-year, ROTC programs. The curriculum of each program is tailored to the needs of the individual Services. For example, the Navy teaches the basics of ship navigation, while the Army teaches the fundamentals of ground combat and the Air Force provides some basic instruction in aerospace history and doctrine. Each of the programs includes instruction in leadership, military customs and military history, and each program provides prospective officers with a gradual transition from the

civilian environment to the military environment. Each ROTC program consists of a series of regularly scheduled academic classes throughout the school year combined with mandatory summer camps or cruises which are designed to give the student realistic military experience and a first-hand view of military life.

The ROTC scholarship continues to be an important incentive to attract exceptionally qualified individuals to ROTC. The rising cost of education makes the scholarship even more attractive. The Congress increased the number of ROTC scholarships from 19,000 in FY 1979 to 29,500 authorized scholarships in FY 1982. The Army offered 6,000 scholarships in FY 1979; the 96th Congress authorized 5,500 additional Army ROTC scholarships in FY 1981 for a total of 12,000. In FY 1981, the Congress authorized the Navy 2,000 additional scholarships for a total of 8,000. The Air Force was authorized 3,000 additional scholarships for a total of 9,500. Both the Navy and the Air Force plan to phase in the awards at the rate of 500 additional awards a year until the authorized level is reached in FY 1987.

The ROTC program is being expanded through the establishment of more host institutions and new extension centers. Students at an extension center participate in the ROTC unit of a larger host institution. This practice extends the ROTC option to students attending the numerous small colleges and universities not large enough in themselves to support a viable ROTC unit. In FY 1980 the Army expanded its program by establishing 41 new extension centers. An additional 48 Army ROTC extension centers and eight new host institutions were established in FY 1981. Since the end of FY 1983 there have been a total of 315 Army ROTC hosts, up from 303 host institutions in FY 1981. The Navy added additional host institutions for a total of 65 in FY 1986, and the Air Force plans additional units for a total of 153 AFROTC host institutions in FY 1987.

As noted at the beginning of this chapter, the ROTC program is not included in Service training loads because the students are not in an active military status. The following table shows the three Service ROTC programs for FY 1987.

TABLE IV-6.--Senior ROTC Programs in FY 1987

<u>Service</u>	<u>Beginning Enrollments</u>	<u>Graduates</u>	<u>Average Enrollments</u>	<u>Average Number of Scholarship Enrollees</u>
Army	73,252	9,126	70,846	11,750
Navy	10,785	1,650	10,943	7,918
Air Force	<u>24,398</u>	<u>3,335</u>	<u>22,438</u>	<u>7,542</u>
DoD Total	108,435	14,111	104,227	27,210

Off-Campus Commissioning Programs

The only Officer Acquisition Training program in which college students participate and is conducted off the college campus is the Marine Corps Platoon Leaders Class (PLC). This program provides for enlistment as a Marine Corps Reservist while the student is still an undergraduate and requires participation in summer military training.

Students participating in this program attend either one or two summer training sessions, depending upon when during their college career, they were enrolled. The objective of the program is to indoctrinate, motivate, and train the enrollees by providing instruction in basic military subjects, leadership, and physical training. PLC students are commissioned when their college degrees are conferred; the newly commissioned Marine Corps officers then attend The Basic School at Quantico, Virginia.

In conformance with the nature of this program, the training loads in Table IV-7 are based only on the time spent in summer training. Loads, consequently, are low as compared to inputs and outputs.

TABLE IV-7.--Training Inputs, Outputs, and Loads,
Off-Campus Commissioning Programs,
FY 1985-87

<u>Service</u> <u>Component</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Marine Corps Reserve PLC	188	207	1,940	1,417	207

Officer Candidate Schools (OCS)

Each of the Military Services operates an Officer Candidate School. The Air Force school is entitled Officer Training School (OTS).

Enlisted members can use this route to "rise from the ranks". The existence of OCS programs, and the other enlisted commissioning programs covered in the next section, is therefore a significant advancement incentive to ambitious and promising enlisted personnel.

The four Services offer direct entry into OCS to selected college graduates without previous enlisted service. Some college students in highly specialized academic disciplines, such as engineering and physical sciences, feel that they cannot afford the time required to participate in ROTC; OCS provides a way to a commission for these persons and, as well, for other well-qualified persons who choose to become officers after graduation from college.

The following table shows the lengths of the various courses.

TABLE IV-8.--Course Lengths, Officer Candidate Schools

<u>Service</u> <u>Course</u>	<u>Course Length (Weeks)</u>
<u>Army</u>	
OCS: Active	14
Reserve	14
<u>Navy</u>	
OCS	16
<u>Marine Corps</u>	
OCS	9
<u>Air Force</u>	
OTS	12

Load data for OCS programs are shown in the following table.

TABLE IV-9.--Training Inputs, Outputs, and Loads,
Officer Candidate Schools,
FY 1985-87

<u>Service</u> <u>Component</u>	<u>FY 85</u> <u>Load</u>	<u>FY 86</u> <u>Load</u>	<u>FY 87</u> <u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	244	253	1,100	748	253
Reserve	9	8	35	23	8
Nat'l Guard	41	40	175	119	40
<u>Navy</u>					
Active	757	742	1,521	1,280	748
Reserve	0	0	0	0	0
<u>Marine Corps</u>					
Active	71	57	469	299	72
Reserve	0	0	0	0	0
<u>Air Force</u>					
Active	808	654	2,991	2,558	669
Reserve	15	20	76	68	17
Natl Guard	0	0	0	0	0
<u>DoD</u>					
Active	1,880	1,706	6,081	4,885	1,742
Gd/Res Total	<u>65</u>	<u>68</u>	<u>286</u>	<u>210</u>	<u>65</u>
DoD Total	1,945	1,774	6,367	5,095	1,807

Other Enlisted Commissioning Programs

The Air Force, Navy, and Marine Corps each have enlisted commissioning programs in addition to Officer Candidate Schools. The purposes of these programs are: (1) to provide a source of officers in specific skills with an expected high rate of retention; (2) to provide an avenue whereby enlisted personnel with proven qualifications can augment the commissioned ranks; and (3) to provide a measure of motivation to enlisted personnel. The Navy's Enlisted Commissioning Programs now number seven and have a planned training load of 1,585 in FY 1987. A similar program, the Marine Enlisted Commissioning Education Program, has been expanded to offer degrees in technical and liberal arts academic disciplines. Students in the USAF Airman Education and Commissioning Program (AECPP) major in engineering and computer science or physical science, with matriculation up to three years; the average academic time spent in the program is about 27 months. In all these enlisted commissioning programs, participants attend the Officer Candidate School of their Service before they are commissioned. These programs provide a reliable alternative to OCS/OTS officer accessions, and like OCS/OTS, this education carries an active duty requirement. The Navy will continue to emphasize enlisted commissioning programs to increase officer procurement in FY 1986 and FY 1987. The Air Force is reducing emphasis on these programs because of funding reductions.

The following table displays load data for these programs. All participants are members of the active forces.

TABLE IV-10.--Training Inputs, Outputs, and Loads,
Other Enlisted Commissioning Programs, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Navy	1,425	1,592	1,356	1,035	1,585
Marine Corps	210	205	105	73	227
Air Force	798	669	235	237	481
DoD Total	2,433	2,466	1,696	1,345	2,293

Health Professions Acquisition Programs

This subcategory may be conveniently divided into two parts, the Armed Forces Health Professions Scholarship Program and the Uniformed Services University of the Health Sciences Program.

The Health Professions Scholarship Program was established in 1972 by Public Law 92-426. Participants are selected from among students, or those accepted for enrollment, in recognized health professions schools. Participants are commissioned in grade O1 in the Reserve of their parent Service, but, except for a short period of annual active duty, are not in active status. They are, therefore, not included within the training loads of their Services. Upon graduation, participants must serve obligated tours of duty, the length of which depends on the length of their participation in the program.

The program is authorized a total of 5,000 scholarships at its current level. Service data for FY 1987 are shown in Table IV-11.

TABLE IV-11.--Health Professions Acquisition Program,
Scholarships Awarded and Graduates, FY 1987

<u>Service</u>	<u>Scholarships</u>	<u>FY 1987 Graduates</u>
Army	1,250	347
Navy	982	384
Air Force	<u>1,314</u>	<u>436</u>
DoD Total	3,546	1,167

An additional acquisition program for health professionals, the Uniformed Services University of the Health Sciences (USUHS), began operation in 1976. In accordance with PL 92-426, the student body of the USUHS is composed of commissioned officers of the Uniformed Services. The first students graduated from this program in 1980.

The USUHS plans an incoming class of 162 medical students in FY 1987. This institution will, over the long term, provide approximately 25 percent of DoD's projected physician requirements. Training inputs, output and loads for this DoD school for FY 1985-1987 are shown in Table IV-12.

TABLE IV-12.--Training Inputs, Outputs, and Loads, USUHS,
FY 1985-87

<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
620	648	162	162	648

SPECIALIZED SKILL TRAINING

General Description

Specialized Skill Training provides officer and enlisted personnel with skills and knowledge needed to perform specific jobs. Each Service has established a job structure that makes it possible for it to carry out its assigned missions. Each position in each organization within that job structure has been analyzed to determine the skills necessary to insure that each job is done properly and efficiently. The purpose of Specialized Skill Training is to impart these required skills to the proper number of individuals in a phased manner so that each position vacancy in the structure can be filled promptly with a qualified replacement.

Specialized Skill Training, as used in this report, is characterized by the following:

Inclusions: Initial, progression, and functional training for both officers and enlisted personnel. Specialized Skill Training specifically includes Army Advanced Individual Training and Navy Apprenticeship Training. This training category also includes aviation-related ground training and enlisted leadership training below the level of that carried in Professional Development Education.

Exclusions: All Officer Acquisition Training programs, notably Officer Candidate School, formerly included in Specialized Training budget documents.

Army One-Station Unit Training (OSUT), as does Specialized Skill Training, provides Army personnel with job-related training in a number of skills. However, since OSUT is conducted as one course which combines Recruit and Specialized Skill Training, it is treated separately in this report (see Chapter III), and OSUT loads are not included in the Specialized Skill Training loads in this chapter.

Specialized Skill Training loads will increase by approximately 23,000 or 18 percent between FY 1985 and FY 1987. Reserve Components training loads for both the enlisted and officer corps continue to grow through FY 1987. DoD wide, the requirement to improve the technical skills of career personnel to keep pace with new equipment acquisition and modifications to the existing inventory will continue into the foreseeable future, and this is reflected in the Specialized Skill Training loads for FY 1987.

Specialized Skill Training loads for FY 1979-87 are as shown in Table V-1 on the following page.

Table V-1.--Specialized Skill Training Loads, FY 1979-87

<u>Service</u> <u>Component</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Army</u> <u>a/ 1/</u>									
Active	32,576	39,089	38,168	33,204	33,711	34,428	37,057	41,113	42,111
Reserve	2,514	3,677	5,064	4,500	4,305	4,683	5,157	9,398	9,711
Nat'l Guard	3,970	5,183	5,114	5,405	4,788	4,201	4,704	8,237	8,562
<u>Navy</u>									
Active	35,973	35,874	37,738	40,748	40,311	41,079	42,238	43,924	45,467
Reserve	467	469	535	556	635	1,110	1,677	1,806	1,873
<u>Marine Corps</u>									
Active	10,560 <u>b/</u>	7,624	8,527	8,361	9,024	9,795	9,066	9,227	10,092
Reserve	560	504	838	618	680	937	1,267	1,493	1,689
<u>Air Force</u>									
Active	20,167	21,445	23,310	22,899	22,453	20,345	19,792	22,096	23,336
Reserve	565	591	692	788	841	1,258	902	1,365	1,587
Nat'l Guard	912	1,031	1,256	1,181	1,401	1,338	2,460	2,599	2,764
<u>DoD</u>									
Active	99,273	104,032	107,743	105,212	105,499	105,647	108,153	116,360	121,006
Gd/Res Total	<u>8,987</u>	<u>11,455</u>	<u>13,499</u>	<u>13,048</u>	<u>12,650</u>	<u>13,527</u>	<u>16,167</u>	<u>24,898</u>	<u>26,186</u>
DoD Total	108,260	115,487	121,242	118,260	118,149	119,174	124,320	141,258	147,192

a/ Data do not include Army One-Station Unit Training loads.
b/ Prior to 1980, the Marine Corps training loads include Special Landing Forces Training operations. The data for FY 80-87 reflect only those training loads associated with training (Program 8) in the President's budget for FY 1987. The magnitude of the Special Landing Forces Training loads is about 2,500 per year.

As in the other types of training covered in this report, the demand placed on the training establishment for individuals with certain skills is determined by comparing projected requirements for each skill and skill level with the projected future inventory of trained service-members.

When anticipated losses are deducted from the current inventory, shortages in various skill areas are revealed. These shortages, except for those that can be satisfied through on-the-job training, or, in a few cases, through lateral entry from civilian life of individuals who already possess an employable skill, create a demand for a phased output of trained replacement personnel. Estimates are made of the proportion of students in each training course who will fail to complete the course. These course attrition factors determine the inputs necessary to achieve the desired course outputs. Inputs, outputs, attrition patterns, and course lengths determine the training loads. These factors are discussed for each sub-category of Specialized Skill Training in the remainder of this chapter.

Specialized Skill Training is the most diverse of the major categories of individual training. In the interest of clarity, the full category has been divided into five sub-categories. Two are concerned with initial skill training, one for officers, the other for enlisted personnel; two others cover more advanced training, again divided by officer and enlisted. The last category covers both officer and enlisted training which, for the most part, imparts required knowledge or skills without changing the student's primary skill or skill level.

Initial Skill Training (Enlisted)

Initial Skill Training (Enlisted) includes all formal training normally given immediately after Recruit Training and leading toward the award of a military occupational specialty or rating at the lowest skill level. Successful completion of the training qualifies the enlisted member to take a position in the job structure of the Service and to progress, through job experience, to the journeyman level. Army One-Station Unit Training satisfies this same purpose but, because it combines the skill training with recruit training in a single course, it is treated separately in this report.

The great majority of Service recruits are drawn from the least skilled segment of the population. Most recruits are under age 21 and have little civilian job experience. In addition, some civilian specialties are not in demand in the military job structure, and many of the most important military skills have no civilian counterpart. Consequently, only a small number of people enter the Service with a skill that can be used with little or no additional training, and enlistees must be trained in a skill before they can become productive. Some skills can be acquired through experience and on-the-job training. Most, however, are most effectively and efficiently learned through

formal courses. In some situations, on board ship for example, the opportunity for on-the-job training is often limited.

Load data for Initial Skill Training (Enlisted) are displayed in Table V-2. The classification of this training is determined by its purpose, rather than by whether entrants attend immediately after Recruit Training. Thus some prior-service students and cross-trainees from other skill areas are reflected in these data.

Table V-2.--Training Inputs, Outputs, and Loads, Initial Skill Training (Enlisted),
FY 1985 - 87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	17,288	17,337	82,034	75,095	17,967
Reserve	3,473	6,130	32,297	29,610	6,011
Nat'l Guard	3,520	6,239	27,810	25,633	6,063
<u>Navy</u>					
Active	22,891	23,403	168,334	154,403	24,364
Reserve	1,411	1,486	11,931	11,209	1,475
<u>Marine Corps</u>					
Active	6,148	5,611	40,105	38,194	6,225
Reserve	1,121	1,329	10,753	9,992	1,505
<u>Air Force</u>					
Active	13,508	15,769	67,441	62,938	16,142
Reserve	721	1,165	6,143	6,009	1,373
Nat'l Guard	1,401	1,476	7,333	6,858	1,605
<u>DoD</u>					
Active	59,835	62,120	357,914	330,630	64,698
Res/Gd Total	<u>11,647</u>	<u>17,825</u>	<u>96,267</u>	<u>89,311</u>	<u>18,032</u>
DoD Total	71,482	79,945	454,181	419,941	82,730

New mission requirements and technological change have resulted in consolidation or splitting skill areas and extensive modification of existing training programs. For instance, the introduction of microprocessors into Air Force duty sections of medical administration and operations resource management has increased the percentage of new accessions requiring formal training for these skills.

To meet the challenge present in serving in areas where terrorism is a frequent threat, the Marine Corps has incorporated terrorism counter action training in selected formal schools. For FY 1986, 1,000 Marines will attend specialized skill schools where these measures are taught. Other classes range from 2 hours at recruit training to 25 hours at Command and Staff College.

Reflecting the variety of skills required in the four Services, there are a large number of courses for enlisted personnel in Initial Skill Training, as shown in the following table.

Table V-3.--Number of Courses, Initial Skill Training (Enlisted), FY 1987

<u>Army a/</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
453	169	82	419

a/ This does not include 38 courses that will be trained under OSUT.

Initial Skill courses include general skills, intelligence, cryptography, and health service training. Some of these courses are in highly technical skills, such as nuclear reactor specialist or electronics technician. Others involve less complex, but not less important, skills -- cook, clerk-typist, mechanic, and vehicle driver. A sampling of courses in each Service with the most students in FY 1987 is shown in the Table V-4.

Table V-4. Initial Skill Training Courses with High Student Flow, FY 1987

	<u>No. of Students</u>	<u>Course Length (in weeks)</u>
<u>Army</u> <u>a/</u>		
Light Weapons Infantryman	18,467	12.6
Cannon Crewman	9,192	13.0
Medical Specialist	10,314	10.0
Administrative Specialist	8,356	9.6
Basic Military Policy	7,502	17.0
Combat Engineer	5,668	13.0
<u>Navy</u>		
Basic Electricity/Electronics	22,661	9.0
Apprentice Training <u>b/</u>	21,727	4.0
Enlisted Basic Aviation Training	14,891	2.0
Propulsion Engineer Basic	7,298	5.0
Nuclear Power Fundamentals	4,223	5.0
Avionics Technician "A" School	4,213	17.0
Basic Enlisted Submarine	3,843	5.5
<u>Marine Corps</u>		
Rifleman	4,885	8.0
Motor Vehicle Operator	2,677	7.0
Field Radio Operator	2,143	13.0
Basic Typing and Personnel Administration	2,085	2.0
Automotive Organizational Maintenance	1,864	23.0
Basic Electronics	1,407	20.0
<u>Air Force</u>		
Security Specialist	4,945	6.4
Administrative Specialist (General)	3,577	7.0
Law Enforcement Specialist	2,379	6.6
Inventory Management Specialist	2,455	5.6
Aircraft Maint (Strategic)	2,288	7.0
Jet Engine Mechanic	1,485	8.4
Medical Svcs Specialist	1,346	11.0

a/ Many of the Army high-density skills and most combat skills (armor crewman, artilleryman, etc.) are trained through One-Station Unit Training (OSUT).

b/ Apprentice Training is composed of fundamental training in one of four basic skill areas: Seaman, Fireman, Airman, Constructionman. The course length shown is the average for those four skills.

Course lengths vary widely often based on the complexity of the subject matter. For example, the Air Force course for cytotechnology specialists is 52 weeks long; whereas the course for packing specialist is only 3 weeks long. Table V-5 shows the average course lengths for the Services' Enlisted Initial Skill Training.

Table V-5.--Average Course Lengths, Academic Days in Training
(Enlisted), FY 1987

<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
55	54.5	56	58.4

The final determinant of training loads is the anticipated rate of attrition. Attrition rates must be estimated for each course. The rate may be negligible for a reasonably routine course for which students entered in the course have the necessary abilities and motivation. Attrition may run much higher, up to one-third of the class entrants, in complex technical subjects. In contrast to policies governing Recruit Training, many of the students who fail to complete these courses are retrained in other skills rather than discharged. The average anticipated rates for FY 1986 and FY 1987 are as shown below.

Table V-6.--Average Attrition Rates, Initial Skill Training (Enlisted),
FY 1986 and FY 1987
(Percent)

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
FY 1986	8.3%	7.2%	5.0%	6.5%
FY 1987	8.3%	7.2%	5.0%	6.5%

Skill Progression Training (Enlisted)

This sub-category covers skill training received by enlisted personnel subsequent to Initial Skill Training. Through this training, the student gains the knowledge to perform at a more skilled level or in a supervisory position. Skill Progression Training is most frequently given after servicemembers have gained experience through actual work in their specialty. In some cases, however, training in a relatively narrow subject area as an immediate follow-on to Initial Skill Training is included in Skill Progression Training.

Training load data for Skill Progression Training (Enlisted) are shown in the following table.

Table V-7.--Training Inputs, Outputs, and Loads, Skill Progression Training (Enlisted), FY 1985-87

<u>Service</u>		<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>		<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>						
Active		4,115	4,175	25,774	24,576	4,603
Reserve		270	576	5,661	5,202	1,289
Nat'l Guard		238	432	3,622	3,456	548
<u>Navy</u>						
Active		12,452	13,444	129,385	123,712	13,847
Reserve		71	125	1,332	1,262	157
<u>Marine Corps</u>						
Active		1,174	1,540	12,472	12,060	1,843
Reserve		90	102	1,511	1,363	116
<u>Air Force</u>						
Active		4,663	4,630	48,240	46,910	5,481
Reserve		66	98	1,464	1,434	105
Nat'l Guard		682	628	3,172	2,978	664
<u>DoD</u>						
Active		22,404	23,789	215,871	207,258	25,774
Res/Gd Total		<u>1,417</u>	<u>1,961</u>	<u>16,762</u>	<u>15,695</u>	<u>2,879</u>
DoD Total		23,821	25,750	232,633	222,953	28,653

For the Air Force, recent budget decisions have reduced funding available for TDY-to-school travel. The immediate impact is a sharp reduction of personnel attending skill progression courses. Further reductions may affect the number of people who can be retained and contract training for initial cadre and instructors for maintenance of new Air Force systems.

The requirement for Skill Progression Training arises from the fact that training in a skill at entry level and subsequent experience do not, in many cases, fully qualify servicemembers to do the more advanced jobs in their field without further formal training. Several factors may contribute, singly or in combination, to a need for additional formal training:

1. The introduction of new equipment.
2. The need to produce a higher degree of skill in a sub-specialty.
3. The need to impart a broader base of knowledge to qualify an individual for a supervisory responsibility.
4. The requirement for refresher training to bring the service-member up to date on the latest information and techniques in a skill.

The primary need, as in all other types of training, is to have trained individuals available to replace losses as they occur. Planning future training in this sub-category follows the same general pattern as for Initial Skill Training. Some additional complications, however, are introduced by the fact that members eligible for schooling are frequently serving overseas or on board ship, rather than flowing from the Recruit Training pipeline. This situation frequently requires that personnel receive the training when they are available, preferably between duty assignments, rather than when they might more easily be accommodated for formal school training.

The following table displays statistics in Skill Progression Training in each of the Services for FY 1987.

Table V-8.--Courses, Course Lengths, and Projected Attrition,
Skill Progression Training (Enlisted), FY 1987

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
Number of Courses	287	1,786	95	1,307
Average Course Lengths (Academic Days)	45	39.9	58	25.3
Projected Attrition Rate (Percent)	4.1%	3.2%	4%	1.6%

The Air Force's average days in training is low compared to the other Services because of the large use of short courses. The large number of Navy and Air Force courses is a reflection of the technical nature of these Services and their large number of subspecialties. Of course, part of the difference is due to differing Service approaches to course definition and segmenting.

Initial Skill Training (Officer)

As a general rule, Officer Acquisition Training is oriented toward the broad educational background and general military training which is considered necessary for all officers entering a Service. In consequence, most newly commissioned officers require further training for the specific type of duty they will be performing in their first duty assignment. Initial Skill Training for officers is, therefore, analogous to Initial Skill Training for enlisted personnel -- both provide the job-oriented training which, added to the military fundamentals learned earlier, prepares the individual for taking a place in the job structure.

Load data for Initial Skill Training (Officer) are displayed in the following table.

Table V-9.--Training Inputs, Outputs, and Loads, Initial Skill Training (Officer), FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	2,697	2,453	8,451	8,264	2,317
Reserve	1,006	1,752	5,712	5,591	1,273
Nat'l Guard	511	789	3,060	2,980	855
<u>Navy</u>					
Active	1,343	1,366	5,036	4,878	1,370
Reserve	13	13	1,050	1,044	13
<u>Marine Corps</u>					
Active	936	1,084	2,802	2,774	892
Reserve	8	8	108	106	7
<u>Air Force</u>					
Active	626	902	5,804	5,893	927
Reserve	62	43	463	466	42
Nat'l Guard	94	117	705	673	120
<u>DoD</u>					
Active	5,602	5,805	22,093	21,809	5,506
Res/Gd Total	<u>1,694</u>	<u>2,722</u>	<u>11,098</u>	<u>10,860</u>	<u>2,310</u>
DoD Total	7,296	8,527	33,191	32,669	7,816

With minor exceptions, all newly commissioned Army officers attend officer basic courses at their branch schools -- Infantry officers at the Infantry School, Engineer officers at the Engineer School, and so forth. These courses average 13 weeks in length, and officers attend before reporting to their first unit of assignment. In addition, certain officers are selected to attend follow-on skill or functional training courses for more specialized assignments.

All submarine and nuclear officers and most Surface Navy officers go to Initial Skill Training. The Navy provides 36 courses for officers in Initial Skill Training, with an average course length of 54 days.

All newly commissioned Marine Corps officers attend a basic course for general orientation and training. In addition, most Marine Corps officers attend one of the 11 Initial Skill Training courses sponsored by the Corps. They may also participate in others conducted by the Navy or other Services. Such courses average 68 days in length and are related to specific officer jobs.

The Air Force conducts 53 Initial Skill Training courses for officers, with an average length of 52 days. About 50 percent of newly commissioned officers attend these courses, some immediately after commissioning and others after spending some time at their first duty assignment.

Skill Progression Training (Officer)

Skill Progression Training for officers is, in general, aimed at officers with several years of practical experience and provides them knowledge needed to assume more advanced responsibilities. For example, the Army provides advanced courses which are structured to prepare the students for battalion and brigade staff duties in addition to command responsibilities at the company and battery level. Data for Skill Progression Training (Officer) are displayed in the following table.

Table V-10.--Training Inputs, Outputs, and Loads, Skill Progression Training (Officer), FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	3,071	3,612	13,095	12,871	3,684
Reserve	180	314	3,763	3,703	381
Nat'l Guard	168	243	1,659	1,617	315
<u>Navy</u>					
Active	1,189	1,184	10,049	9,847	1,204
Reserve	10	13	300	285	15
<u>Marine Corps</u>					
Active	189	285	3,615	3,566	391
Reserve	5	9	274	272	8
<u>Air Force</u>					
Active	709	499	10,456	10,685	499
Reserve	39	33	1,066	1,067	41
Nat'l Guard	264	341	1,652	1,561	337
<u>DoD</u>					
Active	5,158	5,580	37,215	36,969	5,778
Res/Gd Total	<u>666</u>	<u>953</u>	<u>8,714</u>	<u>8,505</u>	<u>1,097</u>
DoD Total	5,824	6,533	45,929	45,474	6,875

The Army conducts 158 courses averaging 62 days in length. The Navy maintains 170 courses, averaging 43 days in length, which cover a variety of specialized duties that are typically performed by officers with several years of service -- for example, destroyer officer course, aviation maintenance officer course, and nuclear propulsion plant course.

Both the Marine Corps and the Air Force conduct broad courses for officers at about the same level as the Army's advanced courses; however, as these are Service-wide and uniform in content, they are carried in Professional Development Education. Within Skill Progression Training, Marine Corps officers attend 20 courses sponsored by the Corps. They also utilize the course offerings of the other Services. The Air Force has 1151 courses, averaging 12 academic days each, for the purpose of training officers in new duties required by their prospective assignments.

Attrition from the Skill Progression courses for officers is significantly lower than for enlisted training or initial skill officer training. Attrition of one to two percent is typical of such courses.

Functional Training (Officer and Enlisted)

Functional Training is an "all other" sub-category covering those types of required training that do not fit neatly into the definitions of the other sub-categories. By and large, Functional Training is in subject areas that cut across the scope of military occupational specialties and provides additional required skills without changing the student's primary speciality or skill level. An example is a Damage Control Course conducted by the Navy. Both officers and enlisted personnel participate in Functional Training. Load data for Functional Training are shown in the Table V-11.

Table V-11.--Training Inputs, Outputs, and Loads, Functional Training
(Officer and Enlisted), FY 1985 - 87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	9,886	13,536	139,198	129,397	13,540
Reserve	228	626	8,281	7,775	757
Nat'l Guard	267	534	9,697	9,020	781
<u>Navy</u>					
Active	4,363	4,527	414,561	395,618	4,682
Reserve	172	169	17,396	16,491	213
<u>Marine Corps</u>					
Active	619	707	9,117	7,800	741
Reserve	43	45	1,259	1,209	53
<u>Air Force</u>					
Active	286	296	10,428	7,548	287
Reserve	14	26	690	666	26
Natl Guard	19	37	1,330	1,323	38
<u>DoD</u>					
Active	15,154	19,066	573,304	540,363	19,250
Res/Gd Total	<u>743</u>	<u>1,437</u>	<u>38,653</u>	<u>36,484</u>	<u>1,868</u>
DoD Total	15,897	20,503	611,957	576,847	21,118

Army Functional Training includes the airborne, ranger, and special forces qualification courses, many specialized NCO supervision courses, language training, and a number of courses related to specialized equipment (e.g., Satellite Communication Operation and Maintenance; 8-inch Atomic Projectile Assembly).

Navy Functional Training differs from that of the other Services because of the very high input to a large number of very short courses. Most of the training consists of in-port training for ships' crews, and includes the following types of activity:

1. Shore training for shipboard teams (firefighting, damage control, anti-submarine warfare, and so forth).
2. Short basic or refresher courses at fleet training centers in the operation of equipment or systems.
3. Shipboard in-port training assistance.
4. Precommissioning training for newly formed crews of ships under construction.

Marine Corps functional training provides skills necessary to perform a specific mission outside of the normal primary occupational specialty. Examples of functional training courses taught at Marine institutions are range officer, aerial observer, field grade officer winter warfare planning, scout/sniper, mountain survival, and drill instructor training.

All Air Force Functional Training is survival training related to various environments: water, arctic, jungle, or tropic. These courses train air crews in the skills for long-term combat survival and survival in chemical, biological, and radiological contaminated environments.

The following table provides additional statistics on Functional Training.

Table V-12.--Courses and Course Length, Functional Training, FY 1987

	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
Number of Courses	1,789	984	35	8
Average Course Length (Days)	25	4	30	9

VI

FLIGHT TRAINING

General Description

Flight Training programs provide basic flying skills required prior to operational assignment of pilots, navigators, and naval flight officers. Most of the training in this category is undergraduate flight training; at the conclusion of this training, a graduate is awarded "wings" and is classified as a "designated" or "rated" officer. Flight Training includes programs for pilots of all Services, navigators in the Air Force, and naval flight officers in the Navy and Marine Corps. Pilot training may be in jet or propeller-driven fixed-wing aircraft, or in helicopters. Some related advanced flight training, such as Army instructor pilot training is also included in Flight Training. Enlisted programs in aviation-related subjects (for example, in air traffic control) and Air Force survival training are in Specialized Skill Training. Marine Corps enlisted navigator training is included in Flight Training.

Flight Training loads, by Service and component, for Fiscal Years 1979 through 1987 are shown in Table VI-1.

Table VI-1.1.--Total Flight Training Loads, FY 1979-87

<u>Service</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Component</u>									
<u>Army</u>									
Active	813	1,204	1,204	1,197	1,455	1,128	1,086	1,216	1,200
Reserve	49	31	87	46	50	68	97	129	186
Natl Guard	89	80	44	86	206	203	201	232	234
<u>Navy</u>									
Active	1,065	1,253	1,614	1,993	1,712	1,635	1,760	1,937	2,001
<u>Marine Corps</u>									
Active	859	790	692	676	647	759	527	500	503
<u>Air Force</u>									
Active	2,025	2,467	2,688	3,117	3,170	3,001	2,880	2,952	2,965
Reserve	37	51	161	52	63	56	55	76	62
Natl Guard	128	128	61	244	234	193	187	230	216
<u>DoD</u>									
Active	4,762	5,714	6,198	6,983	6,984	6,523	6,253	6,605	6,669
Res/Gd Tot	<u>242</u>	<u>303</u>	<u>353</u>	<u>428</u>	<u>553</u>	<u>520</u>	<u>540</u>	<u>667</u>	<u>698</u>
DoD Total	5,065	6,004	6,551	7,411	7,537	7,043	6,793	7,272	7,367

Flight Training loads were reduced by approximately 45 percent over the period FY 1975 to FY 1978 because of the net effect of the following factors:

- Peacetime reductions in active force aviator requirements in all Services, except for moderate increases in Army aviator requirements associated with the 16-division force objective in the last years.

- Restriction of undergraduate flight training for Reserve Component members to the number needed to fill positions in reserve aviation units that could not be filled through recruitment of experienced aviators leaving active duty -- as, for example, positions in aviation units that are remote from major population centers.

The Service trends for flight training in FY 1987 call for maintaining the generally higher rates of training initiated in FY 1979. The higher rates reflect an ongoing effort to return pilot and navigator inventories to long-term sustainable levels, levels which in the late 1970s were adversely affected by several years of unexpectedly high attrition rates for flying personnel. More undergraduate helicopter pilot training for the Army's reserve components is planned. This will increase the Army's reserve pilot inventories and increase the deployability of reserve air detachments.

For purposes of clarity, the following discussion of aviation training is divided into three sections -- Undergraduate Pilot Training, Navigator Training, and All Other Flight Training, each treating a subcategory of Flight Training.

Undergraduate Pilot Training

" Undergraduate Pilot Training qualifies students to perform the basic flight duties and to assume the responsibilities of military pilots. Air Force courses include sufficient flying training to allow the student to attain proficiency in the general class of aircraft (fixed wing or rotary wing) flown in future assignments. Flying and simulator training is augmented by flight-related ground training. Officer professional development training prepares students for the responsibilities of a junior officer. The Army uses a large number of warrant officer pilots. Enlisted entrants undergo warrant officer candidate training before entering flight phases of training, and receive their warrants upon graduation from flight training. A few Army flight training students are already commissioned officers or warrant officers upon entry. The Navy conducts officer training for naval aviation officer candidates concurrent with the early phases of flight training.

Training data for FY 1985-87 are displayed in the following table.

Table VI-2.--Training Inputs, Outputs, and Loads, Undergraduate
Pilot Training, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	866	837	1,098	968	752
Reserve	84	106	210	186	144
Natl Guard	159	164	230	198	155
<u>Navy</u>					
Active	1,168	1,344	1,542	1,040	1,387
<u>Marine Corps</u>					
Active	490	465	418	328	462
<u>Air Force</u>					
Active	1,826	1,790	2,214	1,800	1,766
Reserve	43	58	52	53	46
Natl Guard	127	144	163	139	132
<u>DoD</u>					
Active	4,350	4,436	5,272	4,136	4,367
Res/Gd Tot	<u>413</u>	<u>472</u>	<u>655</u>	<u>576</u>	<u>477</u>
DoD Total	4,763	4,908	5,927	4,712	4,844

Load data for each Service for undergraduate helicopter pilot training are shown in Table VI-3.

Table VI-3.-- Training Inputs, Outputs, and Loads, Undergraduate Helicopter Pilot Training, FY 1985-87

<u>Service</u> <u>Component</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	866	837	1,098	968	752
Reserve	84	106	210	186	144
Natl Guard	159	164	230	198	155
<u>Navy</u>					
Active	304	381	512	345	410
<u>Marine Corps</u>					
Active	287	253	237	193	239
<u>Air Force</u>					
Active	66	78	111	100	78
Natl Guard	0	2	3	3	2
<u>DoD</u>					
Active	1,523	1,549	1,958	1,606	1,479
Res/Gd Total	<u>243</u>	<u>272</u>	<u>443</u>	<u>387</u>	<u>301</u>
DoD Total	1,766	1,821	2,401	1,993	1,780

The following table shows programmed course lengths and projected attrition rates for the Army undergraduate helicopter pilot training program.

Table VI-4.-- Course Lengths and Attrition Rates, Army Undergraduate Helicopter Pilot Training, FY 1987

	<u>Commissioned</u> <u>Officers</u>	<u>Warrant Officer Candidates</u>	
		<u>Officer Training</u>	<u>Flight</u>
Course Length (weeks)	36.4	6.8	36.4
Attrition Rate	10%	13%	16%

The Army course is 6.8 weeks longer for warrant officer candidates than for commissioned officers, since the course also serves as a warrant officer candidate school.

Navy Undergraduate Pilot Training begins with a common core of basic ground training and primary flight training and then diverges according to whether the student is to be qualified in jet aircraft, propeller aircraft

or helicopters. The basic ground phase, or environmental indoctrination phase, is fourteen weeks in length for officer students and 20 weeks for aviation officer candidates, since this phase also serves as an officer training period for the latter group.

The following table shows course lengths, attrition rates, and type of aircraft used for training for each phase of the syllabus.

Table VI-5.--Course Phasing, Navy/Marine Corps
Undergraduate Pilot Training, FY 1987

<u>Course/Phase</u>	<u>Course Length (Weeks)</u>	<u>Attrition Rate (Percent)</u>		<u>Type Aircraft</u>
		<u>NAVY</u>	<u>USMC</u>	
Commissioned Officers				
Aviation Pre-flight				
Indoctrination	6	9%	2%	-
Aviation Officer				
Candidates	14	15%	NA	-
Primary Training (Jet, Prop, Helo)	22	13%	13%	T-34C
Strike Training (Jet)				
Intermediate	25	6%	6%	T-2C
Advanced	20.6	8%	8%	TA-4J
Maritime Training (Prop)				
Intermediate	5.2	1%	1%	T-34C
Advanced	18.4	6%	6%	T-44A
E-2/C-2 Training				
Intermediate E-2/C-2	2.8	1%	1%	T-34C
Intermediate Jet (CQ)	21.6	6%	-	T-2C
Advanced Prop	5.6	1%	-	T-44A
Helicopter Training				
Intermediate	5.2	1%	1%	T-34C
Transition	7.6	1.5%	1.5%	TH-57
Advanced	14.6	2%	2%	TH-57

Because of the task requirements which dictate variations in course content, the standard Undergraduate Pilot Training course is as short as 55 weeks for an officer student qualifying in helicopters or as long as 82 weeks for an aviation officer candidate qualifying in jets. Actual course duration may be longer because of unforeseen circumstances such as major aircraft groundings, fuel shortages, or inclement weather.

The changes in duration for various phases of Undergraduate Pilot Training are the result of full implementation of the Navy Integrated Flight Training System (NIFTS).

The following table displays load data for Navy and Marine Corps Undergraduate Pilot Training. All participants are in the active force.

Table VI-6.--Training Inputs, Outputs, and Loads, Navy/Marine Corps Undergraduate Pilot Training, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Navy</u>					
Strike	513	599	566	370	612
Maritime	351	364	464	325	365
Helo	304	381	512	345	410
Total	1,068	1,344	1,542	1,040	1,387
<u>Marine Corps</u>					
Jet	189	190	148	109	192
Prop	14	22	33	26	31
Helo	287	253	237	193	239
Total	490	465	418	328	462

The final program of Undergraduate Pilot Training is training of Air Force fixed wing jet pilots. Air Force helicopter pilots are trained in the Army program. The majority of Air Force fixed wing pilots are trained in the all-jet USAF Undergraduate Pilot Training program. The standard course length is 49 weeks. Forecast attrition for FY 1987 is 21.7 percent, not including flight screening programs.

In addition, approximately 110 Air Force pilots will be trained annually in the EURO-NATO Joint Jet Pilot Training (ENJJPT) program. ENJJPT is a cooperative undergraduate pilot and pilot instructor training program that began operation on 1 October 1981 at Sheppard Air Force Base, Texas. It is the most significant project of its type that has been undertaken among Allies during peacetime. The nations involved in the program are Belgium, Canada, Denmark, Germany, Greece, Italy, Netherlands, Norway, Portugal, Turkey, United Kingdom, and the United States. ENJJPT is based on the principles of proportionate sharing of program costs and proportionate instructor pilot manning. Forecast attrition for the program is 16.7 percent and the course length is 55 weeks.

Load data for both standard Air Force pilot training and ENJJPT are shown in Table VI-7.

Table VI-7.--Training Inputs, Outputs, and Loads, Air Force Undergraduate Jet Pilot Training, FY 1985-87

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 86</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
Active	1,760	1,712	2,103	1,700	1,688
Reserve	43	58	52	53	46
Natl Guard	127	142	160	136	130
Total	1,930	1,912	2,315	1,889	1,864

At the conclusion of Undergraduate Pilot Training, the new pilot is capable of operating an aircraft in such a manner that future training requirements, in order to accomplish a specific mission, are limited to advanced flight training in aircraft used in operational units and training in the employment of applicable mission weapon systems.

Undergraduate Navigator Training

The Navy trains Navy and Marine Corps personnel to become Naval Flight Officers. The Air Force trains its personnel as navigators. The duties of Naval Flight Officers and Air Force navigators are not precisely the same because of mission differences. But at the undergraduate level, they are sufficiently similar that they are referred to collectively in this report as "navigators" (The Army does not train or use navigators).

The Undergraduate Naval Flight Officer (NFO) training program is a building block training program. The training commences with Aviation Pre-flight Indoctrination (6 weeks for officers) or Aviation Officer Candidate School (14 weeks for officer candidates) where the student is provided basic aeronautical and aviation physiological foundation knowledge. After completing this phase, the student enters the Basic phase. This 15 week course provides the student with the basic skills and knowledge needed to safely navigate, communicate, manage aircraft systems, and to describe two-plane formation maneuvers. Successful completion of Basic qualifies students for entrance into Interservice Undergraduate Navigation Training (22 weeks) conducted at Mather AFB, California (described in a later paragraph), or the Navy Intermediate Phase. The Intermediate Phase (13 weeks) expands the knowledge gained in Basic and requires higher skill and performance standards. Practical flight skills are developed in the ID-23 Computerized Navigation/Communications Training Device; the 2B37 T-34C Simulator; the 2F101 T-2 Simulators; the T-2B aircraft for jet acclimatization and high speed navigation; the T-47A aircraft for jet instrument navigation; and the T-34C aircraft for formation visual navigation, instrument navigation, and advanced performance maneuvers. After successful attainment of the performance standards, the students proceed to one of the following advanced Naval Flight Officer Training phases which provides specific skills and knowledge: Radar Intercept Officer (RIO) (19 weeks), Tactical Navigation (TN) (15 weeks), Overwater Jet Navigation (OJN) (19 weeks), and Airborne Tactical Data Systems (ATDS) (15 weeks).

The advanced segment of Undergraduate Navigator Training for Naval Flight Officers destined for the Multi-Engine Land Base Community is now managed by the Naval Air Training Unit (NAVAIRTU) at Mather AFB. Navigator candidates receive 320 hours of academic instruction, 78 hours of simulator training, and 80 hours of flight instruction in the T-43 aircraft during 22 weeks of training. This training provides sufficient skills and knowledge so that further training for the newly rated navigator can be limited to flight training in operational aircraft and training in employment of applicable weapons systems.

NFO training achieved T-34 aircraft full training capability in the Basic and Intermediate phases in FY 1985. This aircraft allows for increased hands on training. The T-47 was introduced to NFO training and achieved initial training capability in VT-10 Intermediate and RIO phases in FY 1985. T-47 full training capability should be achieved in FY-86. The T-47 replaces the T-39 aircraft.

The Air Force program consists of a 14 week basic course that includes 263 hours of academic instruction, 32 hours of flight simulator training, 22 hours of actual flight instruction in the T-43 aircraft, and 8 hours in the T-37 aircraft. After the core course, students will attend one of three follow-on courses: Fighter, Attack, and Reconnaissance (FAR); Tanker, Transport, and Bomber (TTB); or Electronic Warfare Officer Training (EWOT). The FAR course provides 260 academic hours, 62 simulator hours, 26 T-37 hours, and 24 T-43 hours. The TTB trainee receives 309 academic hours, 68 simulator hours, and 88 T-43 hours. EWOT provides 403 academic hours, 115 simulator hours, and 35 T-43 hours.

Undergraduate Navigator Training provides sufficient skills and knowledge so that further training for the newly rated navigator can be limited to **advanced** flight training in operational aircraft and training in employment of applicable weapon systems. Training load data for Undergraduate Navigator Training are shown in the following table.

Table VI-8. Training Inputs, Outputs, and Loads, Undergraduate Navigator Training, FY 1985-87

<u>Service</u> <u>Component</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Navy</u>					
Active	531	523	884	552	544
<u>Marine Corps</u>					
Active	37	35	55	26	41
<u>Air Force</u>					
Active	445	416	1,436	1,293	521
Reserve	10	12	33	30	11
Natl Guard	42	56	176	158	63
<u>DoD</u>					
Active	1,013	974	2,375	1,871	1,106
Res/Gd Tot	<u>52</u>	<u>68</u>	<u>209</u>	<u>188</u>	<u>74</u>
DoD Total	1,065	1,042	2,584	2,059	1,180

Other Flight Training

This category covers miscellaneous types of flight training, including advanced flight training, flight familiarization, and other flight programs, which were not previously included in undergraduate pilot or navigator training. Load data are displayed in Table VI-9.

Table VI-9.--Training Inputs, Outputs, and Loads,
Advanced, Familiarization, and Other Flight Training, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	220	379	3,105	3,039	448
Reserve	13	23	332	321	42
Natl Guard	42	68	476	459	79
<u>Navy</u>					
Active	61	70	2,586	2,586	70
<u>Air Force</u>					
Active	609	746	5,211	4,941	678
Reserve	2	6	27	24	5
Natl Guard	18	30	306	254	21
<u>DoD</u>					
Active	890	1,195	10,902	10,566	1,196
Res/Gd Total	<u>75</u>	<u>127</u>	<u>1,141</u>	<u>1,058</u>	<u>147</u>
DoD Total	965	1,322	12,043	11,624	1,343

The Army includes in this category courses for instructor pilots and specific pilot qualification courses in various aircraft. Most of the courses are short, in the range of two to seven weeks.

The Air Force conducts a separate 22-day flight screening program for candidates for Undergraduate Pilot Training who have not had previous flight familiarization training. The resulting student loads are included in Other Flight Training. Similar training is provided to most Air Force Academy cadets, some Air Force ROTC cadets, and a limited number of cadets and midshipmen from the Military and Naval Academies. The associated workload is included in the Service Academy loads and in ROTC enrollment figures.

The Navy and Marine Corps do not report training in this category since postgraduate flight training is conducted under operational command auspices and Navy Flight Familiarization is conducted as a component of Officer Acquisition Training (see Chapter IV).

The Air Force Other Flight Training workload is limited largely to instructor courses for pilots and navigators and some specialized courses conducted by the Air Training Command in such fields as electronic warfare. Most Air Force postgraduate flight training is conducted under operational command auspices.

In each of the Services, graduates of undergraduate pilot and undergraduate navigator training receive supplementary training in the specific aircraft they will be flying on operational missions. Emphasis is placed on crew training and performance under conditions that would be encountered in combat. In the Army most of this training is provided as part of normal unit training by the operational unit to which the new pilot is assigned. In the other Services, this additional training is provided by Navy fleet readiness squadrons, Marine combat crew readiness training squadrons, and Air Force combat crew training squadrons. As an exception, centrally conducted Army advanced flight training loads are included within Other Flight Training loads. However, most such training is classified as "crew and unit training" by the Navy, Marine Corps and Air Force and is not included in the loads of this report.

Determination of Requirements for Rated Officers

Flight Training rates are developed by comparing projections of future requirements for rated officers with projections of the future status of inventories of both reserve and active duty rated officers. Consideration is given to the need to have sufficient active duty aviators on hand, in appropriate grades. Requirements for rated officers include both the numbers needed to man the force in peacetime and the additional increment needed to man and sustain the force when war breaks out. For analytical purposes, aviator requirements are divided into two parts: unit and individuals. Requirements for aviators for each of these categories are computed to meet both peacetime needs and wartime mobilization needs.

Unit requirements represent the number of rated officers needed to carry out operational, training, and management activities for programmed units. Each such authorized position (that is, military space or billet) requires a rated officer as an incumbent in order to carry out the functions of the job, either because the job involves flying duties (i.e., "operational flying" positions as defined for purposes of the Aviation Career Incentive Act of 1974) or requires flying experience. Other positions that may be occupied by rated officers for career broadening or similar purposes, but that do not require rated officer incumbents for accomplishing the duties, are not included. Unit requirements have three subcomponents: force, training, and supervision.

Force requirements are the positions required to man and operate the Services' force aircraft. The number of force positions is a product of established crew ratios, or the number of crews per aircraft, which in turn take into account workload (flying hour) and readiness factors and the amount of mission flying and unit flight training that is necessary.

Training positions include the flyers who are conducting formal flight training.

The supervision component is made up of officer positions entailing actual supervision of flying and flight-related activities and the performance of staff jobs which require the expertise of a rated officer. These positions are subject to continuous scrutiny to assure that rated requirements are valid.

Individual requirements include the transients, students and other individuals needed to make it possible to provide for reasonable manning of positions in units.

Rated Officer Inventory Projections

Projecting rated officer inventories into the future must be based on historical experience, current judgment, and an appraisal of how the officers will react to conditions in the future (for example: pay, morale, state of the civilian economy, civilian airline hiring plans, and family satisfaction with service life). These estimates are projected for at least five years in the future. Comparisons of total force inventories of rated officers are then made against the computed total force requirements, and training rates for the entire five-year period are adjusted. This process is repeated each year so that adjustments can be made in training rates based on changes in requirements and/or updated inventory projections. This continuing process of adjustment is necessary to insure that the correct number of trained rated officers will be available in the future without large and expensive fluctuations in training rates.

Training Rate Adjustments

When a comparison of requirements and inventories discloses a shortage or overage of projected rated officers, training rates are adjusted upward or downward in order to bring the program back into balance. For example, if projected FY 1992 pilot requirements exceed projected inventories by 1,000, an increase in training rates (that is, output or production) of pilots of 200 per year starting in FY 1988 may be appropriate. Inputs into the training program would start in FY 1987 in order to obtain the first increase in desired output in FY 1988. This reevaluation process is repeated at least once each year, with adjustments made as necessary to avoid wide fluctuations in loads.

Determination of Training Loads

The process described above, through continuous updating of the comparison between projected rated officer requirements and inventories, leads to a requirement for phased output from the flight training establishment. The desired annual output, considering the anticipated attrition rates and the planned course lengths, as discussed in the preceding sections on the various types of flight training, establishes the size of the input necessary to achieve the target output. Training loads are then calculated, using these factors, to determine the average number of students to be on hand during the training year. For FY 1987, the currently recommended loads are those displayed previously in this chapter.

VII

PROFESSIONAL DEVELOPMENT EDUCATION

General Description

The purpose of Professional Development Education is to provide training and education to career military personnel to prepare them to perform the increasingly complex tasks that become their responsibilities as they progress in their military careers. Whereas Specialized Skill Training is directed toward specific job skills, Professional Development Education is concerned with broader professional development goals in such subjects as military science, engineering, medicine, and management. Professional Development Education is conducted at both military and civilian institutions. This category includes senior enlisted leadership training in recognition of the broad professional content of these courses, as opposed to the narrower skill-oriented training typical of most enlisted training programs. However, most of the programs in this category are for professional development of officers.

Training loads for FY 1979-87 are as shown in Table VII-1.

Table VII-1.--Professional Development Education Training Loads, FY 1979-87

<u>Service</u>	<u>Component</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Army</u>	Active	3,109	2,402	2,614	2,587	2,797	2,997	3,710	3,968	4,046
	Reserve	45	56	58	62	47	89	76	91	93
	Natl Guard	55	53	55	54	52	57	62	48	50
<u>Navy</u>	Active	1,556	1,582	1,686	1,486	1,727	1,847	3,042	3,128	3,187
	Reserve	3	10	16	39	25	37	50	52	52
<u>Marine Corps</u>	Active	637	647	654	672	696	782	838	839	871
	Reserve	15	14	12	18	30	19	27	34	35
<u>Air Force</u>	Active	3,222	3,191	3,284	3,480	3,995	4,234	5,028	4,825	4,834
	Reserve	35	44	40	83	81	68	44	48	46
	Natl Guard	36	38	47	42	38	41	41	46	45
<u>DoD</u>	Active	8,524	7,822	8,074	8,225	9,215	9,860	12,618	12,760	12,938
	Res/Gd Total	189	215	228	298	273	311	300	319	321
<u>DoD Total</u>		8,713	8,037	8,466	8,523	9,488	10,171	12,918	13,079	13,259

The total loads in the table show a considerable disparity among the Services in amounts of Professional Development Education. These disparities are more apparent than real, and is related mainly to somewhat different ways of categorizing Service education programs.

The first three subcategories of Professional Development Education are officer professional military development programs. These programs are at three levels: initial, intermediate, and senior.

Education in the military school system is fundamental to the development of military officers who are fully qualified to perform duties of high responsibility in both war and peace. In most non-military professions, growth in ability and knowledge is gained through experience. In the military, opportunities for full practice of the profession are limited to wartime, and even those officers with combat experience have not had the opportunity for thorough exercise of the decision skills they would require, for example, in a war in the Middle East. The military school system serves partially to fill this shortfall by educating military officers in the skills and knowledge needed to perform their duties in a variety of locales and situations, both in peacetime and wartime.

In addition to their regular courses for active force officers, most schools in this category present nonresident courses and short seminars. Large numbers of Reserve Component officers and other military students are provided instruction through correspondence courses.

Career Officer Professional Schools

The Marine Corps and Air Force conduct career officer professional courses for officers with some experience in operational units. These courses are Service-wide in scope and are, therefore, carried in this report under Professional Development Education. The Army and Navy conduct courses that are at a similar level, but that are oriented toward specific skills (e.g., the Navy's Surface Warfare Officers Course) or somewhat broader skills within a specific part of the Service (e.g., the Army's Armor Officer Advanced Course). The Army and Navy courses, because of their specialization, are treated in this report as part of Specialized Skill Training.

The Marine Corps Amphibious Warfare School prepares officers in the grade of captain for duties in battalion or squadron command or on regimental-level staffs. The course length is 39 weeks. The Air Force Squadron Officer School is an 8-week course designed to prepare selected captains, after completion of some active service experience, for command and staff duties appropriate to their grade.

The training load data for FY 1985-87 associated with these Marine and Air Force courses are displayed in the Table VII-2.

Table VII-2.--Training Inputs, Outputs, and Loads, Career Officers
Professional Schools, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Marine Corps</u>					
Active	129	127	170	170	127
Reserve	8	10	260	260	10
<u>Air Force</u>					
Active	625	625	3,868	3,868	625
Reserve	1	2	10	10	2
Natl Guard	5	4	26	26	4
<u>DoD</u>					
Active	754	752	4,038	4,038	752
Res/Gd Total	<u>14</u>	<u>16</u>	<u>296</u>	<u>296</u>	<u>16</u>
DoD Total	768	768	4,334	4,334	768

Intermediate Service Schools

Each of the Services maintains a Command and Staff College. In addition, the Navy is executive agent for the Armed Forces Staff College, a joint institution sponsored by the Joint Chiefs of Staff with students from all Services. While there are differences in approach and curriculum based on the requirements of the parent Service, each of the courses is designed to prepare officers for command and staff duties in all echelons of their parent Services and in joint or allied commands. A relatively small number of officers from each Service attends one of the Command and Staff Colleges of the other Services; a few attend Allied schools at the same level. Attendance at the Intermediate Service Schools is on a selective basis. The following table lists the Command and Staff Colleges and their respective course lengths.

Table VII-3.--Intermediate Service Schools

<u>Schools</u>	<u>Location</u>	<u>Course Length (Weeks)</u>
Armed Forces Staff College	Norfolk, VA	22
Army Command and General Staff College	Fort Leavenworth, KA	42
College of Naval Command and Staff	Newport, RI	46
Marine Corps Command and Staff College	Quantico, VA	43
Air Command And Staff College	Montgomery, AL	43

Another school categorized as an Intermediate Service School for purposes of this report is the Defense Systems Management College at Fort Belvoir, Virginia. This is a joint school that conducts a primary 20-week course in management concepts and methods with the major purpose of preparing selected military officers and DoD civilian personnel for assignments in program or project management.

Load data for military personnel attending Intermediate Service Schools is shown in the following table.

Table VII-4. Training Inputs, Outputs, and Loads, Intermediate Service Schools, FY 1985-87

<u>Service</u> <u>Component</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	792	908	2,438	2,438	888
Reserve	25	42	524	522	42
Natl Guard	41	31	318	315	31
<u>Navy</u>					
Active	184	191	1,620	1,620	191
Reserve	22	23	645	645	23
<u>Marine Corps</u>					
Active	157	158	211	211	158
Reserve	10	11	240	240	12
<u>Air Force</u>					
Active	469	469	604	605	469
Reserve	16	16	200	200	16
Natl Guard	11	14	142	142	14
<u>DoD</u>					
Active	1,602	1,726	4,873	4,874	1,706
Res/Gd Tot.	<u>125</u>	<u>137</u>	<u>2,069</u>	<u>2,064</u>	<u>138</u>
DoD Total	1,727	1,863	6,942	6,938	1,844

Senior Service Colleges

Each of the Military Departments maintains a Senior Service College, or "War College." In addition, there is the National Defense University, consisting of two joint Senior Service Colleges, The National War College and the Industrial College of the Armed Forces, which are attended by students from all four Services. Senior Service College attendance is on a highly selective basis; students are chosen by Service selection boards from among the most promising officers in the lieutenant colonel/colonel, commander/captain grades.

The common purpose of the Senior Service Colleges is to prepare students for senior command and staff positions at the highest levels in the national security establishment and the allied command structure. The unifying focus is the study of national goals and national security

policy. Each of the Service colleges, while concentrating on the employment of the parent Service in the defense mission, also includes the study of the employment of the forces of other Services.

All of the colleges integrate the study of economic, scientific, political, sociological, and other factors into the consideration of national security problems. The Industrial College, in its approach to national security problems, emphasizes the use and management of national resources. The length of the principal courses at the Senior Service Colleges is ten months. Most colleges also conduct shorter special-purpose seminar-type courses, some particularly for Reserve Component officers. Use of these short courses is greatest in the Navy.

Load data for the Senior Service Colleges are shown in the following table.

Table VII-5.--Training Inputs, Outputs, and Loads, Senior Service Colleges, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	364	359	1,016	1,016	389
Reserve	11	12	15	15	12
Natl Guard	10	10	12	12	10
<u>Navy</u>					
Active	130	136	1,437	1,437	136
Reserve	21	22	608	608	22
<u>Marine Corps</u>					
Active	51	51	66	66	52
Reserve	5	7	151	151	7
<u>Air Force</u>					
Active	248	247	281	283	247
Reserve	6	6	85	85	6
Natl Guard	6	5	83	83	6
<u>DoD</u>					
Active	793	793	2,800	2,802	824
Res/Gd Tot.	<u>59</u>	<u>62</u>	<u>954</u>	<u>954</u>	<u>63</u>
DoD Total	852	855	3,754	3,756	887

Enlisted Leadership Training

The courses included in this category are designed to provide selected senior enlisted personnel the skills and knowledge needed to assume the responsibilities of the highest noncommissioned officer grades. These courses are the culmination of formal enlisted training

and are, for enlisted personnel, analogous to the officer courses discussed in the preceding sections. In addition to such subjects as methods of leadership, human relations, discipline and training, and the administration and employment of military organizations, the senior non-commissioned officers, in these higher-level schools, are given a broader perspective of the role and functions of their Services. Schools, locations and course lengths are shown in Table VII-6.

Table VII-6.--Enlisted Leadership Training Course

<u>Schools</u>	<u>Location</u>	<u>Course Length (Weeks)</u>
Army: Sergeants Major Academy	Fort Bliss, TX	22
Navy: Senior Enlisted Academy	Newport, R.I.	9
Marine Corps:		
Senior Level (Sgt Maj/ Staff MGy Sgt Senior Course)	Quantico, VA	1
NCO Academy (Advanced Course)	Quantico, VA	10
Staff NCO Academy (Career Course)	Quantico, VA	6
	Camp Lejeune, NC	6
	El Toro, CA	6
Air Force: Senior NCO Academy	Gunter AFB, AL	8

Other enlisted leadership training for more junior noncommissioned officers is carried in Specialized Skill Training. This includes command-sponsored NCO academies, for example. This training tends to be more skill related for specific types of specialized leadership responsibilities. The senior enlisted leadership training carried in this chapter is more properly thought of as Professional Development Education in a broader sense. All four Military Services now sponsor Senior Enlisted Leadership Academies.

Training loads for enlisted leadership training for FY 1985-87 are shown in Table VII-7.

Table VII-7.--Training Inputs, Outputs, and Loads, Enlisted Leadership
Training, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	190	201	451	445	197
Reserve	8	4	15	14	6
Natl Guard	8	4	15	14	6
<u>Navy</u>					
Active	42	42	245	245	42
Reserve	5	5	30	30	5
<u>Marine Corps</u>					
Active	221	227	1,833	1,806	229
Reserve	4	6	152	152	6
<u>Air Force</u>					
Active	181	186	1,180	1,180	186
Reserve	3	2	15	15	2
Natl Guard	5	5	30	30	5
<u>DoD</u>					
Active	634	656	3,709	3,676	654
Res/Gd Total	<u>33</u>	<u>26</u>	<u>257</u>	<u>255</u>	<u>30</u>
DoD Total	667	682	3,966	3,931	684

Graduate Education Fully Funded, Full Time

The Department of Defense needs military officers with specialized advanced knowledge, at a level attainable only through graduate education, to perform effectively in certain military jobs. The purpose of the graduate education program in each of the Services is to provide graduate-level education in required disciplines to the numbers of officers required to maintain an inventory of officers qualified to fill these jobs. Under the program described in this section, military officers undergo graduate education on a full time, fully funded basis. An active service payback obligation of two years of service for each year of schooling is required of all officers entering the program, up to a maximum set by the Services. (The Funded Legal Education program established by 10 USC 2004 requires an active service commitment of two-for-one.)

The following table displays training load data for these graduate education programs. All participants are members of the Active Forces.

Table VII-8.--Training Inputs, Outputs, and Loads, Graduate Education,
Fully Funded, Full Time, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>	1,192	1,299	767	767	1,326
<u>Navy</u>	1,212	1,274	788	715	1,362
<u>Marine Corps</u>	137	139	82	79	154
<u>Air Force</u>	<u>1,239</u>	<u>1,213</u>	<u>780</u>	<u>797</u>	<u>1,243</u>
DoD Total	3,780	3,925	2,417	2,358	4,085

Officer graduate students attend either a civilian educational institution or one of the two Service institutions, the Naval Postgraduate School or the Air Force Institute of Technology, depending upon where the required education can best be obtained. Curricula in the two service institutions emphasize military-unique courses, such as in logistics management or intelligence operations, and military applications in all other courses. While these schools are primarily used by the parent Services (including Marine Corps use of the Naval Postgraduate School), they also educate some students from other Services. The numbers of Navy and Air Force officers enrolled in advanced degree and short course programs reflects a five-year plan developed by the Services to improve the advanced technological and engineering capabilities of the career force. The plan incorporates greater utilization of the Naval Postgraduate School and the Air Force Institute of Technology. The following table displays student loads for these two schools.

Table VII-9.--Graduate Education Loads at Service Institutions, FY 1985-87

	Naval Postgraduate School			Air Force Institute of Technology		
	<u>FY 85</u> <u>Load</u>	<u>FY 86</u> <u>Load</u>	<u>FY 87</u> <u>Load</u>	<u>FY 85</u> <u>Load</u>	<u>FY 86</u> <u>Load</u>	<u>FY 87</u> <u>Load</u>
Army	131	262	267	24	46	59
Navy	1,630	1,749	1,825	12	4	4
Marine Corps	103	240	280	2	3	4
Air Force	<u>81</u>	<u>78</u>	<u>78</u>	<u>902</u>	<u>1,169</u>	<u>1,187</u>
Total DoD	1,945	2,329	2,450	940	1,222	1,254

Requirements for graduate-educated officers depend upon the number of "validated billets," that is, military positions that have been determined to require an incumbent with graduate-level education in the applicable academic discipline. Each Service has established a system, ordinarily culminating in a board of senior officials in the Service headquarters, which examines the duty prerequisites for each billet nominated for validation and determines if the job does, in fact, require an officer with an advanced degree. Requirements for included graduate legal education are determined separately.

Other Full Time Education Programs

In addition to the Professional Development Education programs already described there are a variety of other full time programs tailored to meet the particular needs of the Services. (Health Professions Education programs are discussed in a separate section at the end of this chapter).

Several programs have been designed to permit selected individuals an opportunity to work toward associate, baccalaureate, or advanced degrees. These programs benefit the Services in several important ways: they increase the technical qualifications of the individuals in the program; they improve the general educational levels of Service personnel; and they provide career retention and recruiting incentives to outstanding personnel. In addition, to the extent possible, personnel in advanced education programs are later used to satisfy validated requirements and hence reduce the required student load in graduate education for validated billets.

The degree-completion programs are managed by the individual Military Departments and each has its own selection criteria. However, in general individuals are not selected for a program unless the education will enhance their professional development and be of use to the Military Department. All of the programs require a payback from the individual.

Short-course training provides the Military Services with needed skills in a wide variety of scientific, administrative, and other fields. These programs are selected to train personnel in job-oriented skills that can best be acquired through abbreviated courses. Accounting, traffic management, and aviation safety are examples of skills involved. Some of this included training is conducted in DoD schools, the remainder in civilian institutions.

The following table displays load data for this category.

Table VII-10.--Training Inputs, Outputs, and Loads, Other Full Time Education Programs, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
<u>Component</u>	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>					
Active	851	883	2,025	2,025	928
<u>Navy</u>					
Active	337	419	1,856	1,827	450
Reserve	2	2	24	24	2
<u>Marine Corps</u>					
Active	143	137	104	89	151
<u>Air Force</u>					
Active	865	778	9,197	9,221	750
Reserve	18	22	562	562	20
Natl Guard	14	18	417	417	16
<u>DoD</u>					
Active	2,196	2,217	13,182	13,162	2,279
Res/Gd Tot	<u>34</u>	<u>42</u>	<u>1,003</u>	<u>1,003</u>	<u>38</u>
DoD Total	2,230	2,259	14,185	14,165	2,317

Health Professions Education

This subcategory is made up of a wide variety of courses for personnel of all health professions -- physicians, dentists, nurses, medical administrators, and so forth. The majority of the courses offered are conducted in military facilities and vary in length from a few days to a full year. Some training is conducted at civilian medical institutions and in the case of the Army, includes some advanced degree programs. The purpose of Health Professionals Education is to expand the skills

of military medical personnel and to provide them timely information on the latest techniques in their fields. Educational programs connected with the acquisition of health professionals is carried in this report under Officer Acquisition Training. In this category, the Navy provides long-term training. The Army and Air Force rely on short courses.

The following table shows load data for Health Professions Education.

Table VII-11.--Training Inputs, Outputs, and Loads, Health Professions Education, FY 1985-87

<u>Service</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>		
	<u>Load</u>	<u>Load</u>	<u>Input</u>	<u>Output</u>	<u>Load</u>
<u>Army</u>	356	354	19,779	19,779	354
<u>Navy</u>	1,137	1,066	427	486	1,006
<u>Air Force</u>	<u>1,401</u>	<u>1,307</u>	<u>1,350</u>	<u>436</u>	<u>1,314</u>
DoD Total	2,894	2,727	21,556	20,701	2,674

VIII

RESERVE COMPONENTS TRAINING

In addition to training members of the active forces, the Service training establishments also train members of the Reserve Components. Reserve Component training, as part of individual training and education, involves Reservists and Guardsmen who are on active duty for formal school training. It does not include training of Reserve Component members provided under the following circumstances:

- Training received while members are on extended active duty (this training is included in active force aggregates);
- Training conducted by the Reserve Components themselves;
- Training received on annual active duty, except if provided through courses conducted by the active training establishment;
- Any training received while the individual is not in an active military status; as a minor exception, some Reserve and Guard technicians attend military schools in Civil Service status.

The purpose of this chapter is to summarize the amount and types of training of Reservists and Guardsmen which are conducted by the active training establishments. The training loads discussed in this chapter are included within the loads attributed to the various Reserve Components in the previous chapters.

Training of members of the Reserve Components will comprise 18 percent of all individual training and education in FY 1987, or 3 percentage points more than in FY 1985. The change reflects DoD's overall manpower policy of increasing the peacetime reserve strengths relative to the active force strength in FY 1987. The Reserve training loads and workloads will increase accordingly. Training loads for each of the Reserve Components for each of the major categories of training for FY 1987 are shown in Table VIII-1.

Table VIII-1.--Training Loads, Reserve Components, FY 1987 ^{a/}

<u>Component</u>	<u>Recruit Training</u>	<u>One-Station Unit Training</u>	<u>Officer Acquisition Training</u>	<u>Specialized Skill Training</u>	<u>Flight Training</u>	<u>Professional Development Education</u>	<u>Total</u>
Army Reserve	3,699	2,161	8	9,711	186	93	15,858
Army National Guard	3,624	5,752	40	8,562	234	50	18,262
Naval Reserve	1,568	0	0	1,873	0	52	3,493
Marine Corps Reserve	2,013	0	207	1,689	0	35	3,944
Air Force Reserve	415	0	17	1,587	62	46	2,127
Air National Guard	541	0	0	2,764	216	45	3,566
Total, Reserve Components	11,860	7,913	272	26,186	698	321	47,250

^{a/} Loads in this table are a summary of Reserve Components loads displayed previously in this report, and are not additive to them.

Table VIII-2 summarizes load data for entry-level Reserve Component basic qualification training for FY 1987.

Table VIII-2.--Enlisted Entry-Level Training, Reserve Components, FY 1987

	<u>Input</u>	<u>Output</u>	<u>Load</u>
Recruit Training	76,752	67,799	11,860
Initial Skill Training	96,267	89,311	18,032
One-Station Unit Training	<u>36,807</u>	<u>33,352</u>	<u>7,913</u>
Totals	209,826	190,462	37,805

Reserve Component training will account for an increasing share of all programmed Reserve and Active Training in FY 1987. Recruit Training for the Reserves and Guard accounted for 14 percent of all DoD Recruit Training in FY 1983 but will account for 22 percent in FY 1987. Reserve Component training accounts for 22 percent of all Initial Skill Training (Enlisted) and 41 percent of all Army One-Station Unit Training programmed in the Department of Defense for FY 1987.

Although entry-level training for enlisted personnel makes up 80 percent of total Reserve Component training loads, Reserve and Guard officers and enlisted personnel beyond the initial entry stage also are trained by the active establishment. The majority of this training is at the more advanced levels of Specialized Skill Training, and fills the same demands for skill progression or new equipment training that these types of training provide for active members. Reserve Component participation in Flight Training is relatively minor, since most aviator requirements in Reserve Component units are filled by experienced aviators who join after extended service in the active components.

To accommodate an increased force structure in the Reserve Components, more professional development training is required for mid-career officers and enlisted personnel in the Reserves and National Guard. However, the Reserve Components still account for only 7 percent of initial, intermediate, and senior levels of Professional Development Education, and about 4 percent of Enlisted Leadership Training in FY 1987.

The great majority of training of Reservists and Guardsmen is in Recruit and Specialized Skill Training and, for the two Army Components, One-Station Unit Training. Within Specialized Skill Training, most of this training is in Initial Skill Training for enlisted personnel. The combination of Recruit and Initial Skill Training or One-Station Unit Training for enlisted personnel, including Reservists and Guardsmen, provides them basic qualification training that transforms the untrained civilian into a servicemember with a useable skill.

Enlisted members of the Reserve Components without prior service receive the same basic qualification training as active service members. Each non-prior service enlistee in the Reserve Components undergoes, as a minimum, twelve weeks of active duty training. This is carried out by sending the new recruit through Recruit Training and on through Initial Skill Training. Alternatively, many Army Guardsmen and Reservists are provided similar training in certain skills through One-Station Unit Training. Trainees who graduate from Recruit Training proceed to Initial Skill Training in their occupational specialty. This may consist of a course in a Service school or Advanced Individual Training at an Army training center. If a course in the proper skill is not available, the trainee may be assigned to on-the-job training in an active duty for training status. The actual length of active-duty training, in comparison with the statutory twelve weeks minimum, varies from twelve weeks to twelve months, depending on the occupational specialties involved. To accommodate the Reserve Component soldier, the Army split-training program allows completion of initial entry training over a period of normally less than two years in two training periods.

Reserve Component personnel participate in a variety of non-resident courses sponsored by Service schools; Reservists and Guardsmen make use of these training opportunities on the same basis as active personnel. For many Reserve and Guard officers, consideration for promotion depends upon successful participation in Professional Development Education programs.

Beyond the training covered in the training loads, the active training establishment makes other valuable contributions to the state of training of the Reserve Components. Perhaps the most important is realized through former active members who join the Reserve Components after having been trained on active duty. The Reserve Components also receive graduates of Army ROTC who are not called to extended active duty. In many instances, the Active Components also provide facilities and equipment used by the Reserve Components for training.

In summary, training of members of the Reserve Components forms a significant portion of the workload of the active training establishment. Particularly at the entry level, this training is indispensable to the readiness of individuals and organizations of the Reserve Components and to the realization of the Total Force policy.

TRAINING MANPOWER

General Description

Manpower associated with the individual training mission in the Department of Defense can be divided into two parts: first, the trainees and students being trained, and second, the military and civilian manpower that conducts and supports the training. These two classes of manpower are discussed and explained in this chapter.

Trainees and Students

Manpower undergoing training in the Defense training establishment is defined and quantified in three different ways, each of which serves a somewhat different purpose with regard to manpower accounting and resource allocation.

1. Training Loads. These are the "military training student loads" which are detailed in Chapters III through VII of this report -- the average number of military trainees, students, and cadets of each Service and component in training during a given fiscal year, which is subject to annual congressional authorization. Training loads include all military manpower of a given Service or component who are undergoing individual training, regardless of whether the training is conducted by the parent Service, one of the other Services, a DoD school, or by an agency or institution outside the Department of Defense, such as a civilian college or university. Training loads also include all military personnel in training regardless of their assignment status. Some trainees and students are assigned to the training activity; others are attending training in a temporary duty (TDY) or temporary additional duty (TAD) status while remaining assigned to their parent units; still others are attending while in transit from one permanent assignment to another.

Since training loads are an annual average and most courses are much shorter than a year in length, the actual number of students and trainees who enter training, and the number who graduate, is considerably greater than the training load. For example, the total programmed training load for Recruit Training in FY 1987 is about 55,000, yet about 355,000 persons are to enter Recruit Training and about 319,000 are to graduate.

2. Training Workloads. The total number of trainees and students undergoing training within DoD includes some trainees and students of foreign nations, DoD civilian employees, and members of other departments and agencies of the U.S. Government, notably the Coast Guard. In addition, many U.S. military students and trainees are trained by a Service other

than their own. Consequently, the average number of students being trained by a given Service, or its training workload, usually differs from its training load. For example, the Marine Corps has a programmed Flight Training load of 503 in FY 1987; however, since the training is conducted by other Services, its Flight Training workload is zero. On the other hand, because the Navy trains many personnel from other Services and Coast Guard and foreign students as well as most of its own students, the Navy's Specialized Skill Training workload is higher than its training load.

Since training workload, in conjunction with other applicable considerations, is the major determinant of the resources (manpower, funds, materiel and facilities) required to conduct training, it, rather than training load, is appropriately used in considering the allocation of resources to a Service or a training activity. Table IX-1 displays the programmed training workloads for each of the Services in FY 1987.

TABLE IX-1.--Training Workloads, FY 1987 a/
(Thousands)

<u>Category</u>	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>	<u>DoD</u>
Recruit	19.6	17.5	9.7	8.9	55.7
Officer Acquisition	5.1	5.6	.3	5.8	16.8
Specialized Skill	67.3	58.7	7.5	27.6	161.2
Flight	1.8	2.8	0	3.7	8.3
Professional Development Education	6.1	4.4	.5	3.5	14.6
One-Station Unit Training	<u>19.1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>19.1</u>
Total	119.1	89.1	18.0	49.6	275.7

a/Detail may not add due to rounding.

3. Students, Trainees, and Cadets. In the Individuals accounts of the Defense Manpower Requirements Report, military manpower is included for each Service as "Trainees and Students" and (except for the Marine Corps) "Cadets". Conceptually, this manpower represents the number of military trainees, students, cadets and midshipmen programmed to be assigned (PCS as opposed to TDY/TAD) for training on the last day of a given fiscal year. Student, trainee, and cadet manpower is similar to training load in that both represent military members of the reporting Service in training status. Nevertheless, there are substantial differences in the way the amount of manpower in these two manpower aggregations is calculated, with the result that the totals are seldom the same. The major reasons for these differences are:

- Training loads are many years in training status, as has been mentioned, whereas trainees, students, and cadets are end-strengths, or

numbers in training on the last day of the fiscal year. Trainee, student, and cadet numbers are thus affected by the seasonality of enlistment patterns, as described in Chapter III, while the element of seasonality is evened out in training loads.

- Training loads include students attending training in a temporary duty (TDY or TAD) status as well as those attending in a PCS status. In the Defense Manpower Requirements Report TDY and TAD students are carried in the categories of their parent units. In addition, some individuals attending training while in transit from one permanent assignment to another are included in training loads but are classified as "Transients" in the Defense Manpower Requirements Report.

Training loads are a more accurate measure of the amount of training that is needed to meet military requirements than are the categorizations "trainees," "students," and "cadets."

Manpower in Support of Training

Military and civilian manpower is required to accomplish the individual training mission. This manpower conducts and supports instruction, operates training bases and facilities, maintains training equipment, produces training aids, provides personal and community services to students, trainees, and other military members, plans and manages training, and performs all the other tasks necessary to conduct and support individual training conducted in training institutions.

ROTC students are not military members in an active duty status and are not included in military manpower training loads. However, ROTC Basic Camp loads are included in the Army Recruit training loads. To be consistent with this treatment of ROTC students, manpower supporting ROTC programs is not included in Tables IX-2 through IX-5.

The following tables summarize manpower in support of training by the general functions, Conduct of Individual Training, Training Base Operating Support, and Management Headquarters. Conduct of Individual Training includes the following types of manpower: instructors, instructional support, school/training center staffs, student supervisors and direct training support such as training aids and literature, audiovisual resources, and instructional systems development.

TABLE IX-2.--DoD Manpower in Support of Training,
Conduct of Individual Training Function
(End Strengths, Thousands)

	<u>FY 85</u>		<u>FY 86</u>		<u>FY 87</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	42.7	12.6	42.5	12.4	41.6	13.0
Navy	28.9	3.2	29.5	3.1	29.2	3.4
Marine Corps	9.0	0.4	9.1	0.3	9.1	0.3
Air Force	21.8	8.0	21.7	7.2	21.6	7.2
DoD Total	102.4	24.2	102.8	23.0	101.6	23.9

TABLE IX-3.--DoD Manpower in Support of Training,
Base Operating Support Function
(End Strengths, Thousands)

	<u>FY 85</u>		<u>FY 86</u>		<u>FY 87</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	8.6	25.7	8.5	23.7	7.7	24.4
Navy	7.4	7.5	7.0	7.0	6.9	7.3
Marine Corps	2.4	2.2	3.2	2.2	3.2	2.2
<u>Air Force</u>	<u>11.2</u>	<u>7.6</u>	<u>10.9</u>	<u>7.3</u>	<u>10.3</u>	<u>7.3</u>
DoD Total	29.5	43.1	29.6	40.3	28.0	41.3

TABLE IX-4.--DoD Manpower in Support of Training, Management
Headquarters Function
(End Strengths, Thousands)

	<u>FY 85</u>		<u>FY 86</u>		<u>FY 87</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	0.6	0.9	0.6	0.8	0.6	0.8
Navy	0.3	0.5	0.3	0.6	0.3	0.2
Marine Corps	*	-	*	-	*	-
<u>Air Force</u>	<u>0.9</u>	<u>0.5</u>	<u>0.9</u>	<u>0.5</u>	<u>0.9</u>	<u>0.5</u>
DoD Total	1.8	1.9	1.8	1.9	1.8	1.5

*Less than 50.

TABLE IX-5.--DoD Manpower in Support of Training, All Functions
(End Strengths, Thousands)

	<u>FY 85</u>		<u>FY 86</u>		<u>FY 87</u>	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Army	51.9	39.3	51.6	36.9	50.0	38.3
Navy	36.6	11.3	36.9	10.7	36.4	10.9
Marine Corps	11.4	2.6	12.2	2.6	12.3	2.6
<u>Air Force</u>	<u>33.8</u>	<u>16.1</u>	<u>33.5</u>	<u>15.0</u>	<u>32.8</u>	<u>15.0</u>
DoD Total	133.7	69.2	134.2	65.1	131.4	66.7

The Service estimates of training attributable manpower include some staff and support manpower that do not contribute to the production of student output and loads but are reported as training resources in the Five Year Defense Program (FYDP) because they belong to organizations with a primary mission of training. The majority of the non-training attributable manpower is for Base Operating Support (BOS) given to non-training tenant activities at training installations.

Table IX-6 shows changes in total military and civilian manpower in support of training between FY 1977 and FY 1987.

TABLE IX-6.--Trends, Manpower in Support of Training,
DoD Total, By General Function, FY 1977-87 a/
 (End Strengths, Thousands)

	<u>FY 77</u>			<u>FY 82</u>			<u>FY 87</u>			<u>Percent Change</u>	
	<u>Mil</u>	<u>Civ</u>	<u>TOT</u>	<u>Mil</u>	<u>Civ</u>	<u>TOT</u>	<u>Mil</u>	<u>Civ</u>	<u>TOT</u>	<u>Total Manpower:</u>	
										<u>FY 77-87</u>	<u>FY 82-87</u>
Conduct of											
Individual											
Training	108	22	130	96	19	115	102	24	125	-3%	+9%
Base Operating											
Support	36	45	81	35	39	74	28	41	69	-14%	-6%
Management											
Headquarters	<u>2</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>3</u>	<u>-18%</u>	<u>-18%</u>
TOTAL	145	70	215	133	60	193	131	67	198	- 8%	+3%

a/ Detail affected by rounding

As Table IX-6 shows, the total military and civilian manpower in support of training has increased slightly between FY 1982 and 1987. However, within the total, there has been a tradeoff. An increase in manpower conducting individual training has been partially offset by reductions in Base Operating Support and management headquarters functions.

As shown in Tables IX-7 and IX-8, training workloads will be about 8 percent higher in FY 1987 than in FY 1982; considered with the 3 percent increase in the level of total manpower in support of training, this implies an increase in manpower productivity.

TABLE IX-7.--Trends, Training Workloads, FY 1977-87 a/
 (Thousands)

	<u>FY 77</u>	<u>FY 82</u>	<u>FY 87</u>	<u>Percent Change</u>	
				<u>FY 77-87</u>	<u>FY 82-87</u>
Army	99	113	119	+20%	+ 5%
Navy	67	78	89	+33%	+14%
Marine Corps	21	18	18	-14%	0
Air Force	<u>54</u>	<u>47</u>	<u>50</u>	<u>- 7%</u>	<u>+ 6%</u>
DoD Total	238	256	276	+16%	+ 8%

a/ Detail affected by rounding.

TABLE IX-8.--Trends, Training Manpower and Training Workloads,
FY 1977-87
 (Thousands)

	<u>FY 77</u>	<u>FY 82</u>	<u>FY 87</u>	<u>Percent Change</u>	
				<u>FY 77-87</u>	<u>FY 82-87</u>
Manpower in Support					
of Training	215	193	198	- 5%	+ 3%
Training Workloads	238	256	276	+16%	+ 8%

Training Manpower Detailed by Service and Type of Training

Table IX-9 shows the manpower required to support FY 1987 training workloads by Service and training activity.

As was noted early in this chapter, training workloads, in conjunction with other factors, are the determinants of the resources required to conduct training. The workload/resource relationship is not a simple one, but depends upon the nature of training and training support involved. For example, Flight Training normally requires a great deal of support manpower for aircraft maintenance; weapons training requires close instructor supervision for safety considerations.

TABLE IX-9.--Training Manpower by
Service and Type of Training, FY 1987
(Thousands)

<u>Training Activity</u>	<u>Army</u>		<u>Navy</u>		<u>Marine Corps</u>		<u>Air Force</u>		<u>DoD</u>	
	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>	<u>Mil</u>	<u>Civ</u>
Recruit Officer	4.4	0.1	1.6	.0	2.4	.0	0.7	.0	9.1	0.2
Acquisition	0.8	0.7	0.9	0.9	0.3	.0	1.2	0.7	3.2	2.4
Specialized Skill	18.0	5.9	19.0	0.9	5.7	0.2	9.4	2.4	52.0	9.4
Flight Professional	1.4	0.4	6.5	0.6	0.3	0.0	7.1	0.9	15.3	2.0
Development	0.7	0.8	0.5	0.8	0.3	0.1	1.1	0.5	2.5	2.1
One-Station Unit Training	7.7	0.7	-	-	-	-	-	-	7.7	0.7
Medical Training	1.8	0.6	0.6	0.1	-	-	0.7	0.1	3.2	0.8
Direct Training Support	6.9	3.8	0.1	0.1	0.1	*	1.4	2.6	8.5	6.4
Base Operating Support	7.7	24.4	6.9	7.3	3.2	2.2	10.3	7.3	28.0	41.3
Management Headquarters	0.6	0.8	0.3	0.2	*	-	0.9	0.5	1.8	1.5
TOTAL _{a/}	50.0	38.3	36.4	10.9	12.3	2.6	32.8	15.0	131.4	66.7

a/ The Service estimates of training attributable manpower include some staff and support manpower that does not contribute directly to the production of student output and loads but are reported as training resources in the Five Year Defense Plan (FYDP) because they belong to larger organizations with a primary training mission.

*Less than 50.

Manpower data in the six categories of training (i.e., Recruit through One-Station Unit Training) includes instructors, school/ training center staffs and student supervisors. Direct training support includes such tasks as training aids and literature, audiovisual resources, and instructional systems development.

The Services have estimated for FY 1987 how much of the manpower reported in Program 8 of the FYDP is not attributable to individual training. The Army reported that, within Program 8, approximately 8,000 military and 13,000 civilian personnel who support training-related activities other than individual, institutional training could be subtracted from their totals in Table IX-9 to provide a more representative estimate of their manpower dedicated to accomplishing their FY 1987 workload. The Navy and Air Force reported no adjustments for their numbers. The Marine Corps reported an adjustment that would add approximately 1,000 military and subtract 240 civilians from their totals. The additions result from adding non Program 8 personnel who directly support individual training.

TRAINING MANAGEMENT AND FUNDING

General Description

Chapters III through VII of this report describe and explain the military training student loads requested to be authorized for each military component. These student loads represent patterns and levels of training effort which require manpower and other resources. The purpose of this chapter is to describe and explain the resources (other than manpower, which is discussed in Chapter IX), funding and costs associated with the conduct of individual training.

In considering training resources, it is important to distinguish between the training loads required by a Service but conducted in part outside the Service, and the workloads representing training conducted by the Service. As discussed in the previous chapter, the workloads, which represent training conducted by a Service, are the basis for resource requirements (manpower, materiel, facilities, and funds) needed to conduct and support the training that the Service executes.

Management of Individual Training

Detailed management of individual training is carried out by the four Military Services. Each of the Services, except the Marine Corps, has a training commander immediately subordinate to the Service chief who is responsible for most of the individual training conducted within that Service. Some training is managed directly by the Service headquarters. However, the most prevalent pattern of control is through a training command headquarters that manages most Service military schools, training centers, and other training facilities.

Staff Responsibilities

Within the Office of the Secretary of Defense, staff responsibility for individual training and education policies rests with the Assistant Secretary of Defense (Force Management and Personnel), with a strong influence over the allocation and use of resources being exercised by the Assistant Secretary of Defense (Comptroller). The staffs of these two offices work closely together in the staff supervision of DoD individual training and education. Other OSD offices, such as Health Affairs, and Research and Engineering, participate as appropriate. The OSD role is generally one of policy formulation, allocation of resources, overview of Service training programs, and coordination among the Services.

Within each Service headquarters, a principal staff officer has responsibility for individual training. Other staff members may have primary responsibility for certain types of training, as, for example, a Service Surgeon General for professional medical training. Other staff members have collateral responsibilities for the allocation of manpower and funds to the training function.

Primary responsibility on the Army staff for individual training rests with the Deputy Chief of Staff for Operations and Plans and his subordinate, the Director of Training. Within the Navy, the principal staff officer is the Deputy Chief of Naval Operations for Manpower, Personnel, and Training. The Marine Corps manages training through the Deputy Chief of Staff for Training. Commanders of the separate major subordinate training activities report directly to the Commandant of the Marine Corps, dealing with the headquarters training staff. Within the Air Force, the Director of Personnel Programs, under the Deputy Chief of Staff for Manpower and Personnel, has staff responsibility for individual training.

Training Commands

The Army, Navy, and Air Force each has a command headquarters that manages most of the individual training conducted by that Service.

The Army's principal training command headquarters is Headquarters, Training and Doctrine Command (TRADOC), located at Fort Monroe, Virginia. TRADOC's control is exercised through training installation and school commanders throughout the United States.

The Chief of Naval Education and Training, headquartered at Pensacola, Florida, exercises control, through subordinate functional commanders, of education and training conducted in training centers, schools, and programs throughout the Navy.

For the Air Force, Headquarters, Air Training Command, at Randolph Air Force Base, Texas, directly controls individual training centers and units.

The Service-wide training commands are not responsible for all individual training and education conducted. As already noted, the Surgeons General are responsible for most health professional and medical technical training. Other examples include the Service Academies, which are under the direct supervision of the respective Service Chiefs.

The Service Training Command Chiefs and the Marine Corps Deputy Chief of Staff for Training are also the senior members of the Inter-service Training Review Organization (ITRO). ITRO was formed in 1972 to facilitate cooperative training efforts among the Services. The committees and working groups of the Organization perform the detailed analysis which becomes the basis for decisions on the feasibility of consolidation of training courses or other cooperative arrangements. A listing of major joint training efforts is provided in Appendix B.

Training Facilities

Appendix C lists the principal individual training facilities of the four Services for each of the major categories of training. Projected average training workloads and training support manpower for FY 1987 are also shown for each facility listed.

Training Funding and Costs

The training costs addressed in this section include funding in the President's Budget for Fiscal Year 1987 requested for individual military training and education. These costs differ from life-cycle costs, which would take account of retirement and other costs that are not funded during FY 1987. Depreciation costs of training facilities and equipment are not included, although training investment costs estimated for FY 1987, such as procurement and construction costs, are included. The report uses the data in the DoD's Five Year Defense Program (FYDP) as the basis for all estimates of the manpower and funds devoted to training and education.

The costs in this chapter include funding for military pay and allowances for both PCS and TDY/TAD students, pay and allowances of military and civilian personnel in support of training, training-related PCS costs, base operating costs in support of training, training-related operations and maintenance costs (including civilian support personnel pay and allowances), training investment costs for construction and procurement, and overhead costs for training administration and command. Certain costs for activities that are organic parts of training organizations but that support non-training missions (such as Base Operating Support for non-training activities on training bases) are also included in the costs shown in the tables in this chapter to provide comparability with the Five Year Defense Program and the President's Budget.

For a given Service, the requirement for funding for training arises from two factors: first, the need to fund the pay and allowances of its own military training student loads, regardless of where or by whom the students are trained; and, second, the need to provide for the level of individual training and education effort necessary to meet the Service's commitments to accomplish training for its own and other students.

For comparability, the funding requests associated with ROTC and other non-load training programs are deleted from the following tables. Hence the tables report FY 1987 funding estimates related to the requested FY 1987 training loads.

Special caution should be exercised in using these costs for comparisons among Services. Differences in missions among the Services, differing operating and training conditions, and differences in the mix of Service training programs, degrade the soundness of comparisons based on aggregated data such as these.

Table X-1 shows funding of individual training for the Army for FY 1985 through FY 1987.

TABLE X-1.--Funding of Individual Training
for the Army by Type of Training and Fiscal Year
(\$ Millions)

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Recruit	\$ 365.5	\$ 364.5	\$ 328.7
Officer Acquisition	123.8	115.9	118.1
Specialized Skill	1,626.5	1,661.0	1,732.8
Flight	511.1	439.5	367.2
Professional			
Development Education	253.8	238.7	245.1
One-Station Unit			
Training	400.0	406.1	406.8
Medical Training	301.2	296.7	309.5
BOS and Direct			
Training Support	2,123.0	2,236.4	2,388.8
Management			
Headquarters	65.9	66.6	66.4
PCS Cost			
for Training	218.9	295.7	322.1
TDY Cost for Training	510.4	636.9	639.5
Reserve Component			
Pay & Allowances	596.8	716.8	757.3
Total	\$7,096.7	\$7,474.7	\$7,682.3

Funding for individual training is shown each year in Program 8 of the FYDP. Some exceptions should be noted when estimating how much of the budget is dedicated to individual training. An amount of funding related to individual training appears in other programs of the FYDP. In addition a portion of the resources under Program 8 are not directly related to individual training.

The Services sometimes include in their individual training costs certain Program 8 funds which support other training and activities in addition to individual, institutional training. These costs are related to audiovisual support, training developments, base operations, real-property maintenance, and headquarters management type activities.

Under Program 8, the Training and Doctrine Command (TRADOC) funds Army-wide requirements for audiovisual and visually based instructional materials used for training individuals or units of the Army. Training Development activities, under TRADOC, produce resident and non-resident training programs and materials to meet the needs of the Army in the field as well as individual training at the Training Centers and Schools. The management of HQ, TRADOC is funded by Program 8 as is the real-property maintenance (RPMA) and base operations (BASOPS) of all those posts designated as TRADOC installations. Although TRADOC installations may have tenants from other major commands, the RPMA and BASOPS are funded in Program 8. These Program 8 costs (\$1.09 Billion FY 1987) should be excluded to provide a more representative estimate of funding

which is specifically dedicated to accomplishing FY 1987 individual training. The Army adjusted total would be \$6.59 Billion.

Table X-2 shows Navy funding for individual training for FY 1985 through FY 1987.

Table X-2.--Funding of Individual Training
for the Navy by Type of Training and Fiscal Year
(\$ Millions)

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Recruit	\$ 433.3	\$ 501.3	\$ 477.9
Officer Acquisition	159.6	161.2	172.7
Specialized Skill	1,731.5	1,812.2	1,831.7
Flight	799.3	828.8	763.8
Professional			
Development Education	145.1	151.3	157.7
Medical Training	133.2	143.5	158.8
BOS and Direct			
Training Support	1,095.8	1,092.8	1,066.9
Management			
Headquarters	32.8	29.6	28.1
PCS Cost			
for Training	133.3	150.0	152.9
TDY Cost for Training	51.2	55.6	53.8
Reserve Component			
Pay & Allowances	73.7	74.9	82.8
Total	\$4,788.9	\$5,001.3	\$4,947.2

For FY 1987 the Navy did not report any adjustments to the Program 8 costs shown in Table X-2. The Marine Corps funding for individual training for FY 1985 through FY 1987 is shown in Table X-3.

Table X-3.--Funding of Individual Training
for the Marine Corps by Type of Training and Fiscal Year
(\$ Millions)

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Recruit	\$ 242.8	\$ 250.2	\$ 245.0
Officer Acquisition	13.6	22.8	23.5
Specialized Skill	454.1	485.5	498.3
Flight	55.1	54.6	54.2
Professional			
Development Education	43.5	40.0	40.2
BOS and Direct			
Training Support	207.5	222.5	231.8
Management			
Headquarters	0.4	0.4	0.4
PCS Cost			
for Training	93.1	99.4	112.1
TDY Cost for Training	3.2	3.4	3.5
Reserve Component			
Pay & Allowances	56.2	54.6	60.6
Total	\$1,169.6	\$1,233.5	\$1,269.7

The Marine Corps reported an adjustment to Program 8 costs of \$9 million.

The Air Force individual training costs for FY 1985 through FY 1987 are shown in Table X-4.

TABLE X-4.--Funding of Individual Training
for the Air Force by Type of Training and Fiscal Year
(\$ Millions)

	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Recruit	\$ 236.7	\$ 223.4	\$ 226.3
Officer Acquisition	172.0	175.7	181.2
Specialized Skill	786.1	820.1	887.7
Flight	904.8	762.5	746.2
Professional			
Development Education	257.0	245.1	230.0
Medical Training	174.9	186.6	195.1
BOS and Direct			
Training Support	982.5	1,045.6	1,052.9
Management Headquarters	57.2	58.6	59.5
PCS Cost			
for Training	51.2	55.8	57.5
TDY Cost for Training	283.4	308.1	388.3
Reserve Component			
Pay & Allowances	121.6	133.8	140.0
Total	\$4,027.4	\$4,015.3	\$4,164.6

The Air Force reported an adjustment to Program 8 costs of \$2.4 million. This would reduce the total costs for FY 1987 to \$4,162.2 billion.

Table X-5 shows funding of individual training by Service and type of training for FY 1987.

Table X-5.--Funding of Individual Training
by Service and Type of Training, FY 1987
(\$ Millions)

	<u>Army</u>	<u>Navy</u>	<u>USMC</u>	<u>Air Force</u>	<u>DoD</u>
Recruit	\$ 328.7	\$ 477.9	\$ 245.0	\$ 226.3	\$1,277.9
Officer Acquisition	118.1	172.7	23.5	181.2	495.5
Specialized Skill	1,732.8	1,831.7	498.3	887.7	4,950.4
Flight	367.2	763.8	54.2	746.2	1,931.5
Professional					
Development Education	245.1	157.7	40.2	230.0	673.0
One-Station Unit Training	406.8	-	-	-	406.8
Medical Training	309.5	158.8	-	195.1	663.5
BOS and Direct					
Training Support	2,388.8	1,066.9	231.8	1,052.9	4,740.3
Management Headquarters	66.4	28.1	0.4	59.5	154.4
PCS Cost					
for Training	322.1	152.9	112.1	57.5	644.7
TDY Cost for Training	639.5	53.8	3.5	388.3	1,085.0
Reserve Component					
Pay & Allowances	757.3	82.8	60.6	140.0	1,040.8
Total	\$7,682.3	\$4,947.2	\$1,269.7	\$4,164.6	\$18,063.8

a/ May not add due to rounding.

Student pay and allowance totals for a Service's requested military student training load have been added to pay and allowances for the staff and support manpower for each Service's workload. This can produce significant distortions in the use of these aggregates for assessing training efficiency (e.g., in the Marine Corps, where significant loads are trained by other Services).

Appendix D shows a distribution of funds in the table above by appropriation.

Table X-5 includes substantial segments of cost which are not normally sensitive to significant shifts (say up to fifteen percent) in training load. These include certain command, base, facility, and equipment costs. These "fixed" costs need to be considered in program and budget adjustments because, within a reasonable range of output, they remain approximately the same and do not vary as the training load varies. They change, instead, with decisions to change the manner of accomplishing training, most often through training investment decisions or base realignments.

There are often substantial year-to-year fluctuations in funding for fixed costs. These costs are termed "fixed", not because they do not change from year to year, but because their changes characteristically are not "variable" with changes in workloads from period to period. Funding of these costs reflects significant increases, however, for years in which there are major procurements of, for example, simulators, aircraft, or construction in support of training.

Thus, the proportion of total funding requested to support training differs significantly among the Services and among categories of training; the proportion in the short run, however, is seldom less than one-third of total cost. This has important implications for the extent of funding adjustments appropriate to changes in the level of activity or size of a training program. Other things equal, if training funds are to be adequate for the needs of a reduced program, they must be reduced by a smaller proportion than the program loads in order to account for fixed costs. By the same token, program increases, within reasonable capacity limits, may not require a proportional increase in total program funding.

Training costs are affected by inflation, both because of price rises for goods and services and because of the pay of the military and civilian personnel involved as students, instructors, and support. Some training program costs are strongly affected, in addition, by energy cost increases, especially in flight training.

APPENDIX A

DETERMINING TRAINING REQUIREMENTS

Discussions of the determination of training requirements in this report reflect a generally uniform approach. The following overview of the methodology for assessing and calculating training requirements is provided as a framework for understanding this approach. As noted, details in calculation may differ to some extent among the Services and among the training categories.

Requirements

All training is accomplished to satisfy the need for personnel with certain types and levels of skills to man the approved or projected force. The Services, over the years, have developed detailed, systematic methods of determining the manpower needed to man and support the forces. The Defense Manpower Requirements Report discusses this process. From these force requirements for manpower, the need for trained personnel with specific skills can then be derived. For example, a given force structure establishes the number of trained enlisted personnel needed. The number of authorized positions within that force structure for radar technicians establishes the basic requirement for trained personnel with that skill. This process is reiterated on a phased basis for all skills and skill levels for each Service, for both officer and enlisted skills. The total of all personnel in all skills needed to perform all the jobs in the force at a point in time represents the total requirement for trained manpower projected for that date.

Inventory Projections

The requirements identified through this process must be measured against the available assets, in terms of trained personnel on hand in each skill and skill level. From this asset base, estimates are made of how many trained personnel will be available at various points of time in the future. These estimates take into account probable rates of change to the current inventory -- through reenlistment, promotion, discharge, death, retirement, or other causes. These estimates are based on the best historical information available, tempered by judgment of how in the future personnel policies, the state of the economy, behavioral patterns, and other factors, many of them difficult to predict, will affect the probabilities that a trained individual will remain in the Service. A comparison of skill requirements and skill inventory projections, over time, establishes the extent of shortage or surplus likely to exist in each skill area by month and year. Adjusting the inventory may entail retraining personnel who are in surplus skills, but to a much greater degree, adjustment is likely to require the training of new accessions at entry level in shortage skill areas. The process

places a demand on the personnel management and training establishments continually to analyze information about attrition as it occurs, by skill and skill level, in order to produce the right number of trained personnel with the proper skills needed to restore and maintain the balance of the skill inventory. The workload thus placed on the training establishment is detailed by graduates needed from courses of various lengths and is measured in terms of average student load, or "training load."

Average Training Loads

Resources (manpower, money, and materiel) needed for any particular category of training vary with the number of students undergoing training at any given time. Facilities must be constructed and maintained to accommodate these students in training. The training establishment must maintain a sufficient staff of qualified instructors to conduct instruction for the "load" of students. Students and Trainees, as described in the "Individuals" chapter of the Defense Manpower Requirements Report, must be programmed to account for the fact that these personnel are in formal school training and are not available for duty with operational units. All of these personnel must be paid, housed, and supported. The basis for establishing these resource requirements is the "average training load."

The aggregate training load of courses of instruction within a given training category or sub-category for a given period is computed in accordance with the following formula, except as noted:

$$L = \frac{\sum_{i=1}^n \left(\frac{E_i + G_i}{2} \right) t_i}{y}$$

where L is Average Training Load,

i is a class (1,2,...n) scheduled for a training course within the training category under consideration,

E is number of expected entrants to scheduled class i,

G is number of expected graduates from scheduled class i,

t is the calendar length of the syllabus of class i, and

y is the length of a calendar year expressed in the same units as t (1 year = 12 months = 52 weeks = 365 days).

Fractions of carryover classes conducted during the year are included as though they were separate classes. However, individuals remaining in class at the end of a period are not counted as graduates, nor are individuals already in a class at the beginning of a period counted as entrants except for purposes of computing training loads for these fractions of courses.

The training load for a category or sub-category of training (e.g., Specialized Skill Training or Functional Training within that category) is the sum of the loads computed for all classes of courses within the category or sub-category.

This method of computation implies "straight-line" attrition, under an assumption that net class attrition occurs at a constant rate during a course. In the relatively few cases when attrition patterns experienced characteristically produce a significantly different distribution of attrition, the more appropriate attrition pattern is used in lieu of the term $\frac{E + G}{2}$.

2

Since attrition varies for different training programs and is not always spread uniformly throughout the length of a course of training, determining training loads becomes a complex problem in estimation. This process of estimation involves two related factors.

First, across the spectrum of training programs that are within the scope of this report, attrition varies from nearly zero to as high as 25 to 30 percent. Most officer Professional Development Education programs have practically no attrition. For FY 1986, the Services estimate that about 9 percent of new recruits, on a DoD average basis, will not complete Recruit Training because they will be found, in the course of undergoing training, not to have the mental or physical qualifications, or the motivation, for military life. Of these, some will fall ill or go absent without leave. Attrition rates in Specialized Skill Training vary widely, with the longer and more demanding courses tending to have higher losses. Pilot training is near the top of the scale in attrition; the higher rate of losses is based on lack of aptitude or motivation for flying, accidents, and similar causes which are intensified in this type of training. While historical data provide a basis for projecting attrition rates for all types of training, there is a considerable possibility for error based on variance in such factors as student quality and motivation.

A second necessary step in evaluating the effect of attrition is to estimate the phasing of attrition for each training program. In some courses, attrition tends to be higher in the early stages of a course when the inept and those lacking motivation are discovered. In other courses, the bulk of attrition may occur toward the end of the course. The patterns of losses vary widely among types of training and, to the detriment of precise planning, over time. The complexities of the

attrition variable make it necessary for the Services to use computer simulations in their training load calculations which take into account the rates and time-phasing of attrition.

An additional variation is introduced into the conceptual process of forecasting requirements and planning training loads as described above by the seasonal and cyclical nature of new accessions to the Services. Inputs to many of the more stable training programs -- Professional Development Education, Flight Training, the Service Academies, and the most advanced portions of Specialized Skill Training -- are readily predictable. Inputs to the training programs which are dependent on new accessions, Recruit Training and Initial Skill Training for graduates of Recruit Training, are considerably more volatile. The volume of inputs to these types of training depends on such intangibles as job opportunities in the civilian economy and the decisions of young people to enlist, delay enlisting, or not enlist. Moreover, enlistments are seasonal in nature, following a long-term pattern of "good" and "bad" recruiting months, whereas phased requirements may move independently of these seasonal patterns. As a result, training loads for the initial active duty training programs are generally based on a compromise involving the timing of predicted enlistments and the capacity of the training base as well as when the new personnel are needed to fill vacancies in the job structure. Most of the courses in these programs are relatively short, and program adjustments can readily be made.

APPENDIX B

SELECTED MAJOR COURSES/SKILL AREAS TRAINED IN OTHER SERVICES

<u>Sponsoring Service</u>	<u>Major Interservice Course/ Skill Areas</u>	<u>Other Participating Services</u>
Army	Construction Equipment Operator	Marine Corps Air Force
Army	Airborne	Navy Marine Corps Air Force
Army	Artillery	Marine Corps
Army	Armor	Marine Corps
Army	Explosive Ordnance Disposal	Navy Air Force Marine Corps
Army	Joint Tactical Communications Systems (TRI-TAC)	Navy Air Force Marine Corps
Army	Stinger/Redeye Missile	Navy Air Force Marine Corps
Army	Satellite Communication Fundamentals	Navy Air Force Marine Corps
Army	Tracked Vehicle Repair	Marine Corps Air Force
Army	Correctional Specialist	Navy
Army	Postal Operations	Navy Air Force Marine Corps
Army	Combat Casualty Care	Navy Air Force
Army	Biomedical Equipment Specialist (Basic and Advanced)	Navy Coast Guard
Army	Behavioral Science Specialist	Air Force Marine Corps
Army	Medical Laboratory Specialist (Basic)	Navy Coast Guard

<u>Sponsoring Service</u>	<u>Major Interservice Course/ Skill Areas</u>	<u>Other Participating Services</u>
Army	Psychiatric Specialist	Navy
Army	Veterinary Specialist (Basic)	Air Force Marine Corps
Army	Laser Microwave Hazards	Navy Air Force
Army	Tropical Medicine	Navy Air Force
Army	Allergy/Clinical Immunology Specialist	Air Force
Army	Respiratory Specialist	Navy
Army	Occupational Therapy Specialist	Air Force
Army	Advanced Digital Theory	Navy
Navy	Aviation Maintenance	Marine Corps
Navy	Flight Training	Marine Corps Coast Guard
Navy	Cryptologic Courses	Army Marine Corps Air Force
Navy	Diving	Army Marine Corps Air Force Coast Guard
Navy	Musician	Army Marine Corps
Navy	Explosive Ordnance Disposal	Army Marine Corps Air Force
Navy	Cryptographic Maintenance	Marine Corps Air Force Coast Guard
Navy	Teletype Maintenance	Marine Corps
Marine Corps	Computer Systems, Programming (IBM 360)	Army Air Force Navy

<u>Sponsoring Service</u>	<u>Major Interservice Course/ Skill Areas</u>	<u>Other Participating Services</u>
Air Force	Navigator Training	Navy Marine Corps
Air Force	Tempest (Cryptologic Courses)	Army Navy Marine Corps
Air Force	Cryptologic Equipment Maintenance	Army Navy Marine Corps
Air Force	Precision Measurement Training	Army Marine Corps
Air Force	Aircraft Pneudraulic Repair	Army
Air Force	Weather Training	Army Navy Marine Corps
Air Force	Military Dog Handler	Army Navy Marine Corps
Air Force	Law Enforcement	Navy Marine Corps
Air Force	Fire Control Specialist	Army Marine Corps
Air Force	Nondestruct Inspection	Army Navy Marine Corps
Air Force	Defense Sensor Interpretation and Application Training	Army Navy Marine Corps
Air Force	Air Intelligence Training	Army Navy Marine Corps
Air Force	Lineman Training	Army Marine Corps
Air Force	Professional Comptroller	Army Navy Marine Corps

<u>Sponsoring Service</u>	<u>Major Interservice Course/ Skill Areas</u>	<u>Other Participating Services</u>
Air Force	Radio Communications Analysis	Army Navy Marine Corps
Air Force	Voice Processing	Army Navy Marine Corps
Air Force	Cryptoanalysis	Army Marine Corps
Air Force	Stinger Missile	Army
Air Force	Imagery Production	Marine Corps

APPENDIX C

INDIVIDUAL TRAINING FACILITIES AT MAJOR LOCATIONS BY TRAINING CATEGORY, FY 1987

A. Recruit Training

<u>Facility Location</u>	<u>Student Workload</u>	<u>Training Staff E/S a/ Military</u>	<u>Civilian</u>
<u>Army</u>			
Fort Dix, NJ	5,474	1,169	16
Fort Jackson, SC	6,311	1,287	33
Fort Knox, KY	2,768 b/	611	37
Fort Leonard Wood, MO	2,840	829	31
Fort McClellan, AL	1,461	306	2
Fort Sill, OK	503	73	2
Fort Polk, LA	139	-	-
<u>Navy</u>			
Great Lakes, IL	6,819	588	6
Orlando, FL	5,613	507	-
San Diego, CA	5,101	451	14
<u>Marine Corps</u>			
Parris Island, SC	5,028	1,345	6
San Diego, CA	4,642	1,059	5
<u>Air Force</u>			
Lackland Air Force Base, TX	8,897	718	18

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters, and Base Operating Support.

b/ Includes ROTC Basic camp workload.

B. Officer Acquisition Training

<u>Facility Location</u>	<u>Student Workload</u>	<u>Training Staff E/S</u> <u>a/</u>	<u>Military</u>	<u>Civilian</u>
<u>Army</u>				
Fort Benning, GA	303	44	3	
Fort Monmouth, NJ	242	48	22	
West Point, NY	3,913	721	778	
<u>Navy</u>				
Annapolis, MD	4,310	265	307	
Newport, RI	809	125	12	
Pensacola, FL <u>b/</u>	318	-	-	
<u>Marine Corps</u>				
Quantico, VA	386	257	3	
<u>Air Force</u>				
Colorado Springs, CO	4,438	1,074	693	
Lackland Air Force Base, TX	761	161	17	

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

b/ Manpower not separately identified by training category in manpower documents.

C. Specialized Skill Training

<u>Facility Location</u>	<u>Student Workload</u>	<u>Training Staff E/S a/</u>	
		<u>Military</u>	<u>Civilian</u>
<u>Army</u>			
Aberdeen Proving Ground, MD	3,600	1,297	274
Charlottesville, VA	257	30	0
Fort Belvoir, VA	1,835	643	101
Fort Benning, GA	4,254	1,124	101
Fort B. Harrison, IN	3,203	653	152
Fort Bliss, TX	1,902	807	405
Fort Bragg, NC	1,257	807	203
Fort Devens, MA	949	910	208
Fort Dix, NJ	1,725	480	7
Fort Eustis, VA	3,057	1,124	304
Fort Gordon, GA	8,758	2,104	912
Fort Huachuca, AZ	1,313	577	144
Fort Jackson, SC	3,778	970	51
Fort Knox, KY	2,752	1,124	355
Fort Lee, VA	5,101	1,027	363
Fort L. Wood, MO	1,498	490	51
Fort McClellan, AL	1,961	803	152
Fort Rucker, AL	1,415	317	101
Fort Sam Houston, TX	5,761	756	40
Fort Leavenworth, KA	917	163	8
Fort Sill, OK	3,340	1,124	355
Fort Monmouth, NY	203	163	19
Monterey, CA	3,686	163	912
Redstone Arsenal, AL	1,731	807	405
Rock Island, IL	516	--	65
Savanna Army Depot, IL	417	--	50
Texarkana, TX	305	--	37
Fort Ord, CA	--	35	34
Little Creek, VA	29	163 b/	15
Lackland AFB, TX	--	30 b/	--
Brooke Army Medical Center	1,680	46	--
USAMEOS, Aurora, CO	243	33	20
Other Medical Centers/Hosp.	554	152	--

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

b/ Instructors assigned to training facilities of another Service.

C. Specialized Skill Training (continued)

<u>Facility Location</u>	<u>Student Workload</u>	<u>Training Staff E/S a/</u>	
		<u>Military</u>	<u>Civilian</u>
<u>Navy</u>			
Athens, GA	391	56	12
Bangor, WA	557	482	21
Bethesda, MD (Medical)	268	70	8
Charleston, SC	807	523	5
Dam Neck, VA	2,349	1,313	36
Great Lakes, IL	10,096	1,649	35
Great Lakes IL (Medical)	1,198	226	6
Groton, CT	3,173	921	7
Groton, CT (Medical)	74	15	3
Gulfport, MS	533	146	11
Idaho Falls, ID	747	651	--
Indian Head, MD	316	124	6
Jacksonville, FL	299	272	--
Lakehurst, NJ	601	206	28
Little Creek, VA	696	156	9
Mayport, FL	254	132	2
Memphis, TN	8,127	1,006	66
Meridian, MS	1,037	127	10
Newport, RI	847	428	12
Norfolk, VA	1,995	1,278	21
Oakland, CA	77	10	8
Orlando, FL	5,414	782	13
Panama City, FL	275	184	6
Pearl Harbor, HI	317	241	8
Pensacola, FL	2,147	827	40
Pensacola, FL (Medical)	70	84	8
Philadelphia, PA	403	60	3
Port Hueneme, CA	694	164	11
Portsmouth, VA (Medical)	274	32	3
San Diego, CA	9,075	3,537	96
San Diego, CA (Medical)	1,190	130	10
San Francisco, CA	627	173	--
Schenectady, NY	1,049	772	--
Vallejo, CA	1,329	555	12
Windsor, CT	263	194	--
Whidbey Island, WA	198	138	2

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

C. Specialized Skill Training (continued)

<u>Facility Location</u>	<u>Student Workload</u>	<u>Training Staff E/S</u> <u>a/</u>	<u>Military</u> <u>Civilian</u>
<u>Marine Corps</u>			
Albany, GA	45	30	1
Camp Lejeune, NC	1,863	1,076	42
Camp Pendleton, CA	872	797	13
Parris Island, SC	99	34	--
Quantico, VA	913	994	40
San Diego, CA	317	69	--
Twentynine Palms, CA	1,525	632	111
<u>Air Force b/</u>			
Chanute Air Force Base, IL	4,273	1,389	505
Fairchild Air Force Base, WA	287	345	22
Goodfellow Air Force Base, TX	1,889	345	93
Homestead Air Force Base, FL	72	101	2
Keesler Air Force Base, MS	6,648	1,780	679
Lackland Air Force Base, TX	2,849	1,074	221
Lowry Air Force Base, CO	4,582	1,618	405
Peterson Air Force Base, CO	167	134	4
Sheppard Air Force Base, TX	5,698	1,528	592

a/ Reflects manpower end-strength (E/S) to include instructors, school/
training center staffs, student supervisors. Excludes training
support, Management Headquarters and Base Operating Support.

b/ Includes Active AF, Civilian, ARF & Others; does not include
field or contract training.

D. Flight Training

<u>Facility Location</u>	<u>Workload</u>	<u>Training Staff E/S a/</u>	
		<u>Military</u>	<u>Civilian</u>
<u>Army</u>			
Fort Rucker, AL	1,813	1,366	445
<u>Navy</u>			
Chase Field, TX	196	642	122
Corpus Christi, TX	333	536	84
Kingsville, TX	196	719	93
Meridian, MS	166	582	79
Pensacola, FL	740	1,505	125
Sacramento, CA	--	35	1
Whiting Field, FL	1,038	930	71
<u>Air Force</u>			
Columbus Air Force Base, MS	385	1,341	126
Lackland Air Force Base, TX	175	11	--
Laughlin Air Force Base, TX	415	1,485	153
Mather Air Force Base, CA	798	990	159
Randolph Air Force Base, TX	179	793	161
Reese Air Force Base, TX	394	1,218	178
Sheppard Air Force Base, TX	273	267	27
Vance Air Force Base, OK	338	424	13
Williams Air Force Base, AZ	460	1,414	180

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

E. Professional Development Education

<u>Facility Location</u>	<u>Workload</u>	<u>Training Staff E/S a/</u>	
		<u>Military</u>	<u>Civilian</u>
<u>Army</u>			
Carlisle Barracks, PA	255	31	35
Fort Belvoir, VA	213	73 <u>b/</u>	137
Fort Bliss, TX	215	106	24
Fort Leavenworth, KA	797	250	160
Fort McNair, DC	330	48 <u>c/</u>	22
DoDCI, Navy Yard, D.C.	366	20 <u>d/</u>	17
<u>Navy</u>			
Monterey, CA	1,967	33	215
Newport, RI	629	51	41
Norfolk, VA	279	26	49
<u>Marine Corps</u>			
Quantico, VA	427	209	60
Camp Lejeune, NC	50	13	--
<u>Air Force</u>			
Bolling AFB, DC	8	21	2
Gunter Air Force Station, AL	210	57	8
Maxwell Air Force Base, AL	1,613	563	158
Wright-Patterson Air Force Base, OH	1,279	281	266

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, student supervisors. Excludes training support, Management Headquarters and Base Operating Support.

b/ 28 Army, 45 Other Services

c/ 19 Army, 29 Other Services

d/ 6 Army, 14 Other Services

F. One-Station Unit Training (OSUT)

<u>Facility Location</u>	<u>Student Workload</u>	<u>Training Staff E/S a/</u>	
		<u>Military</u>	<u>Civilian</u>
<u>Army</u>			
Fort Benning, GA	6,748	2,068	163
Fort Bliss, TX	764	689	34
Fort L. Wood, MO	3,745	1,609	163
Fort Sill, OK	3,540	1,455	102
Fort McClellan, AL	2,014	689	41
Fort Knox, KY	2,334	1,149	204

a/ Reflects manpower end-strength (E/S) to include instructors, school/training center staffs, and student supervisors. Excludes training support, management headquarters, and base operating support.

APPENDIX D

SUMMARY OF TOTAL FUNDING FOR INDIVIDUAL TRAINING AND EDUCATION, BY SERVICE AND APPROPRIATION, FY 1985-87 (\$ millions)

<u>Appropriation</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Army</u>			
Operations and Maintenance	\$2,201.7	\$2,229.2	\$2,403.2
Military Personnel	3,757.7	4,034.8	4,124.8
Reserve Personnel	256.6	333.5	322.2
National Guard Personnel	354.0	397.4	448.4
Aircraft Procurement	265.4	170.8	71.7
Missile Procurement	1.5	0.8	2.2
Procurement Weapons and Tracked Combat Vehicles	30.3	34.1	36.4
Other Procurement	31.1	49.1	48.2
Military Construction	<u>198.5</u>	<u>225.0</u>	<u>225.2</u>
Total Army	\$7,096.7	\$7,474.7	\$7,682.3
<u>Navy</u>			
Operations and Maintenance	\$1,300.0	\$1,369.5	\$1,395.5
Military Personnel	2,882.7	3,013.4	2,924.9
Reserve Personnel	117.7	103.5	113.7
Aircraft Procurement	200.8	176.1	143.4
Other Procurement	135.3	187.6	214.4
Military Construction	<u>152.3</u>	<u>151.1</u>	<u>155.2</u>
Total Navy	\$4,788.9	\$5,001.3	\$4,947.2
<u>Marine Corps</u>			
Operations and Maintenance	\$ 151.9	\$ 162.2	\$ 170.3
Military Personnel	919.6	1,002.1	1,018.4
Reserve Personnel	56.4	60.6	67.1
Procurement	<u>41.7</u>	<u>8.6</u>	<u>13.9</u>
Total Marine Corps	\$1,169.6	\$1,233.5	\$1,269.7

<u>Appropriation</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Air Force</u>			
Operations and Maintenance	\$1,118.2	\$1,144.5	\$1,187.4
Military Personnel	2,422.8	2,485.0	2,599.4
Reserve Personnel	59.9	62.9	65.1
National Guard Personnel	77.8	86.4	90.5
Aircraft Procurement	228.7	109.5	92.3
Other Procurement	28.3	25.9	33.2
Military Construction	<u>91.7</u>	<u>101.1</u>	<u>96.7</u>
Total Air Force	\$4,027.4	\$4,015.3	\$4,164.6
Total Department of Defense	\$17,082.5	\$17,724.7	\$18,063.7

Note: Totals may not add due to rounding. These totals exclude funding for individual education and training programs for which loads are not requested and for which funds were not shown in the funding tables in Chapter X (e.g., ROTC).

READINESS IMPLICATIONS
OF
COLLECTIVE UNIT TRAINING
FOR FY 1987

Prepared by
Office of the Assistant Secretary of Defense
(Force Management and Personnel)
Department of the Army
Department of the Navy
Department of the Air Force

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INTRODUCTION AND OVERVIEW

Military operations are performed by organizations, not by individuals. To attain full readiness, these organizations must learn to operate as cohesive and responsive teams that are capable of succeeding in appropriate wartime missions. This section of the Force Readiness Report discusses the state of readiness of US Forces in terms of trends in the amount and quality of this team training.

This section of the report is organized into five chapters. Chapters I through IV cover the status of each of the four Military Services with regard to collective unit training. Chapter V covers JCS-directed and coordinated exercises.

Definitions. "Training", as the term is used in the Department of Defense, is defined as "instruction and applied exercises directed toward the acquisition and retention of skills, knowledge and attitudes required to accomplish military tasks." The overall term "training" is applicable to the instruction and practical exercises of both individual Service members and operational units. The training of individuals takes place in two settings, in schools or training centers operated by centralized training commands (referred to as "institutional training") and within operational units through on-the-job training, or OJT. The first section of this volume is dedicated to the explanation and justification of the institutional training program of each Service which is planned for the coming fiscal year. Since the purpose of institutional training is to produce qualified personnel to fill military jobs, it is related more closely to personnel readiness, covered in Volume III of the Force Readiness Report, than to the training readiness discussed in this section.

The term "collective unit training" refers to the instruction and applied exercises which prepare organizational units to accomplish required military tasks as integrated teams. This is the aspect of training which the Department of Defense considers in assessing the readiness of military units and forces, and is consequently the subject of this section of the Force Readiness Report.

The term "unit" includes the whole range of military organizations from the smallest to the largest. At the lower end of the spectrum there are aircrews, infantry squads, combat vehicle crews, and a wide variety of primary organizations including sections, workcenters and other organizational groupings, normally under a single leader or supervisor. Training exercises of larger units, such as battalions and brigades in the Army or Marine Corps, frequently include cooperating organizations from more than one Military Service and from allied nations. "Collective unit training" includes the team training and exercises of this full spectrum of units.

Relationship with Other Elements of Readiness. Both materiel readiness and personnel readiness, discussed in other volumes of the Force Readiness Report, have a profound effect on the quality of collective unit training.

The readiness of a unit's materiel influences the amount of collective unit training that can be conducted, the amount of command attention that can be devoted to it, and the quality of the training.

Personnel readiness is particularly important to sound collective unit training. This type of training is most effective in terms of developing and retaining team proficiency when:

- The units undergoing training are at full strength.
- Personnel turnover and turbulence are low.
- Leadership positions are filled with qualified people.
- Individual unit members are capable of learning and performing in their job skills.

There has been an improvement over the past several years in these personnel factors. This improvement makes it possible for units to concentrate more attention on collective unit training by lessening the need for constant corrective training of individuals and repetitive training at the primary unit level. The improved availability of qualified leaders, especially at the smaller unit level, enhances the quality of the collective unit training, since the leaders are primarily responsible for the proficiency of their units. Personnel stability raises the level of retention of team skills; as a result, the collective learning effects of collective unit training are retained over a longer period of time, and greater readiness value is gained from a given amount of training. However, while high personnel and materiel readiness provide the preconditions for good collective unit training and enhance its value, they cannot substitute for it.

The Importance of Good Training. Collective unit training is essentially team practice for typical combat missions. At the primary unit level -- an infantry squad, an aircrew, a sonar team on a destroyer, etc. -- the training task is to practice tactical evolutions, including live firing in appropriate units, until a prescribed level of proficiency is attained, and then to engage in repetitive practice to maintain proficiency. Units at each higher level -- for example, infantry platoon, company and battalion -- must also train as teams to meet prescribed standards. Finally, units of all types and Services which would operate together in combat must practice together. Training readiness is the totality of the proficiency gained and maintained by units at each level. Consequently, the readiness of a major unit such as a Marine Amphibious Force is dependent on the proficiency and effective integration of the major unit itself and all of its constituent units. This proficiency can only be developed and maintained through rigorous, realistic collective unit training.

Units which have not been properly trained are subject to avoidable casualties and reverses in combat despite the quality of their personnel and weapons. Well-trained units, in contrast, can be counted on to acquit themselves well in combat and to get the maximum combat power from their weapons.

Measurement of Training Readiness. Of the four elements of readiness, training readiness is the most difficult to measure and express. Materiel readiness is measured in terms of percentage of equipment on hand and the percentage that is operational. Personnel readiness, basically, is the percent of qualified personnel on hand as compared to the number authorized. Training readiness does not lend itself readily to such objective

assessments. The Department of Defense has been attempting to improve its capability for assessing and reporting training readiness, and some improvements are incorporated in this report.

Using the assessment tools that are presently available, the following sections of the report display and discuss collective unit training data in information of two main types:

- Levels and trends of training activity, such as flying hours and steaming days. While these data have limitations as training readiness indicators, as is discussed in the next paragraph, they are useful indicators of the opportunity to conduct collective unit training. An increase in steaming days, for example, unless it is attributable to a greater amount of operational activity with limited training value, is an increase in the opportunity for at-sea training by fleet units. A reduction in steaming days decreases the opportunity to conduct collective unit training.
- Improvements in training methods and quality. These improvements in ranges, use of simulation and other enhancements help to assure that collective unit training activity contributes as much as possible to a better readiness posture.

Taken together, these two types of information provide a useful description of developments in collective unit training programs and progress toward well-trained forces.

Indicators of Training Activity. The following four chapters display appropriate statistics that indicate levels and trends of collective unit training activity within each Service. While these indicators are useful for this purpose, some of them need to be used with some caution for the following reasons:

- Some statistics, notably flying hours and ship steaming hours, include operational activity as well as training activity. For example, flying hours for antisubmarine warfare aircraft include operational Anti-Submarine Warfare (ASW) patrol flights as well as flights undertaken for training only. The two types of activity are not readily separable; they are funded from the same accounts, and all operational activity has some training value, although the amount may vary from a great deal to very little. An unprogrammed amount of operational activity may cause a temporary peak in the statistics without a commensurate enhancement in readiness.
- For many types of support units, activities in wartime are much the same as in peacetime; consequently, routine peacetime operations constitute most of the collective unit training of these organizations. For example, maintenance units and underway replenishment ships train mainly by performing their routine support missions. Participation in exercises by such organizations enhances training readiness mainly by raising the tempo of activity and, in some cases, changing the environment in which the work is done.

- Some activity indicators, notably battalion training days, do not disclose the actual differential values of the included activities. For example, a day of live-fire exercises may be much more valuable to a tank unit than a day of limited maneuvers without live fire.

Where it is feasible and useful, these anomalies are explained through supplemental statistics or discussions in the text.

Overview of Training Readiness. As has been noted, good collective unit training and, as a product of it, training readiness, is based, first, on adequate opportunities to train and, secondly, on the quality of the training. The following table shows the long-term trend in some of the principal opportunities to train. The indicators shown are aggregates for the active force except where otherwise indicated. The details for fiscal years 1984-87 are provided in the subsequent chapters.

Table 1-1

<u>Flying Hrs Per Crew per Month</u>	<u>FY80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Army*	18.8	18.4	17.2	16.8	15.6	15.2	18.2	18.3
Navy/Marine Tac Air/ASW	24.2	24.4	23.7	23.6	25.0	25.0	25.0	25.0
Air Force Tac Air	15.6	16.6	17.9	18.6	19.1	19.1	19.0	19.4
<u>Non-Deployed Steaming Days/ Ship/Quarter</u>	28.9	28.5	29.0	27.0	28.2	27.4	29.0	29.0
<u>Army Tank Mileage</u>	1000	1000	1000	1000	1000	850	828	850
<u>Marine Corps Field Training Days/Battalion</u>	N/A	N/A	95.4	97.2	100.9	98.5	103.0	108.3

* Includes U.S. Army Reserve and U.S. Army National Guard figures.

The Army flying hour trend shows a return to acceptable levels made possible by the recovery from a repair parts shortage. The apparent fall-off in Army tank mileage since 1984 is not considered significant in terms of readiness. Otherwise, most of the indicators for the four Services are essentially level. However, the flying hours in FY 1987 will remain somewhat short of Service-computed goals -- for example, 19.4 hrs vs. a goal of 21 for Air Force tactical aircrews, and 25 vs. 26 for their Navy and Marine Corps counterparts.

Although most of these indicators of opportunities to conduct collective unit training have remained essentially level, the quality of training has advanced during the 1980s. The emergence of the Army's National Training Center as a mature facility, offering unprecedented opportunities for realistic combat training for 28 heavy battalions each year, is a prime example. Challenging new automated ranges are being built or planned for Army divisional installations. New and expanded automated air-to-air combat ranges are becoming available. Simulators are being developed and used to complement conventional training and to help in controlling training costs. These applications of training technology, while costly, pay for themselves very quickly by raising the value of training. The key to enhanced training readiness is assuring that each hour or day of training activity yields the maximum value in learning how to fight and win. This is the training strategy the Department of Defense is following to produce ready forces.

CHAPTER I U.S. ARMY

The Army's activity levels in collective unit training are described in the following paragraphs in terms of ground unit training (battalion training days and operating tempo (OPTEMPO)), aircrew training, training devices and simulators, range modernization/improvement, training munitions, service exercise participation, and theater perspective on training.

U.S. Army Ground Unit Training. The Battalion Training Day (BTD) is the statutory reporting requirement (Public Law 96-342) intended to serve as a general gauge of unit training tempo. However, it is a poor -- and in some cases misleading -- indicator. In the FY 86 FRR, average BTDs for tank and mechanized infantry battalions went up, even though the operating tempo (OPTEMPO) for operation of their tanks, Bradley Fighting Vehicles, and armored personnel carriers had been reduced by 15 percent in the year since the previous Major Command submissions. Further breakdown of BTDs by theater are shown in Tables I-24, I-25, and I-26 on pages I-17 through I-18.

TABLE I-1

Type Unit	U.S. ARMY BATTALION TRAINING DAYS (BTDs)							
	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs
Armor	55	8450	55	8233	55	7040	55	7585
Infantry	54	10153	57	8754	65	7992	68	8382
Mech Infantry	47	6694	44	7390	44	6237	44	6846
Field Artillery	86	13812	89	15352	91	14144	86	14390
Armored Cavalry	19	3178	19	3470	18	2847	18	3152
Air Cavalry	7	1285	8	872	7	900	7	887
Cbt Engineer*	<u>48</u>	<u>7575</u>	<u>31</u>	<u>5862</u>	<u>33</u>	<u>4959</u>	<u>37</u>	<u>5712</u>
TOTAL	316	51147	303	49933	313	44119	315	46954

* FY 85-87 data includes only Combat Engineer Battalions.

NOTE: BTD fluctuation is caused by unit activations/deactivations, COHORT trainup, new equipment transition, and variances in annual training plans with some linkage due to resource reductions over the period.

The BTD is insensitive to resource changes and -- as such -- is of marginal utility for Congress. The Army does not manage nor fund training by BTDs, but rather against programed events and the resources required to execute those events. The BTD does not reflect the relative cost, content, or contribution to unit readiness provided by the training accomplished. A resource-intensive, task force live-fire exercise at the National Training Center is a BTD; so is a day of dismounted infantry training conducted in a local maneuver area at virtually no cost.

Units will train approximately the same number of days annually, with no direct formulaic correlation to the level of funding provided. However, the quality of that training and the level conducted (i.e., platoon versus task force combined arms) is directly related to resources. OPTEMPO O&M is the foremost input but other appropriations (i.e., Procurement Funding (OPA) for challenging training devices and simulator and for live-fire ammunition, Procurement Ammunition Army (PAA) and Military Construction Army (MCA) for tough new gunnery ranges) contribute to an exponential enhancement of the training value received per tank mile or helicopter hour consumed.

OPTEMPO is the method used by the Army as the basis for programming and budgeting annual unit training and operational and support requirements. OPTEMPO is expressed in terms of miles or hours per year applied to a fleet of systems or like items of equipment. Within a battalion, the OPTEMPO of the major cost driver will also determine the OPTEMPO of the supporting systems. (i.e., an increase in M60A3 tank OPTEMPO in an armor battalion will increase the OPTEMPO of the M88 tracked recovery vehicle).

Training OPTEMPO is a far better reflection of the level of O&M funding allocated for training than the BTD, which is an inadequate measurement for training readiness resource management and comparison. OPTEMPO is currently resourced at the same fleet levels across all theaters, but current plans are to break it out by division and separate brigade in 1987.

TABLE I-2

GROUND OPTEMPO EXAMPLES
(miles per vehicle per year as a fleet avg)

	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
M1 Tank	1000	850	850(828)	850
M60-Series Tank	1000	850	850(828)	850
Bradley Fighting Vehicle	1000	850	850(828)	850
Multiple Launch Rocket System	1100	850	850(828)	850
Armored Combat Engineer Vehicle	350	350	350(341)	850

NOTE: Reduced FY 86 figures (in parentheses) represent initial Gramm-Rudman impact applied to FY 86 execution year in JAN 86.

Aircrew Training. The Army Flying Hour Program (FHP) provides flying hours to 20 commands/agencies and is the major resource for aviation training. The goals of the FHP are to provide resources for the training base, provide sufficient hours for the Reserve Components to maintain individual Aircrew Training Manual (ATM) requirements, and support training for Active crews in maintaining individual, unit, and combined arms proficiency for operational aviation units at their programmed manning levels. OPTEMPO, expressed in hours per crew per month, is used to track specific combat aircraft in the combat major commands (MACOM) (Forces Command (FORSCOM), U.S. Army Europe (USAREUR), Western Command (WESTCOM), and Eighth U.S. Army (EUSA)).

The FHP is a total system designed to realize the full combat potential of a growing and increasingly sophisticated aviation force. The FHP consists in part of hours used for training individual aviators, aviation units, and combined arms teams, and for carrying out unique missions of major Army commands. Flight time undertaken for one of these purposes may also satisfy one or more of the other purposes. For example, participation in a combined arms exercise may also satisfy some unit and individual flying requirement.

Tables I-3, I-4, and I-5 summarize actual and estimated flying hours in terms of total hours by selected aircraft types for FY 84 through FY 87.

Further breakdown of flying hours by theater are shown in Table I-27 page I-18.

TABLE I-3

ACTIVE U.S. ARMY FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AH-1	111,130	114,861	143,157	186,339
AH-64	0	2,330	22,996	48,747
CH-47	46,762	43,962	49,531	47,934
CH-54	*	0	85	0
OH-6	*	4,704	940	7128
OH-58	222,225	213,464	259,161	320,352
TH-55	*	92,416	102,575	102,575
UH-1	502,379	473,068	490,164	476,139
UH-60	82,708	57,146	162,840	192,188
C-12	*	53,904	56,269	55,200
OV/RV-1	17,444	18,404	22,767	26,663
RC-12	*	801	8,868	9,000
RU-21	*	0	9,371	8,550
T-42	*	14,026	15,839	17,685
U-21	*	46,338	45,285	40,799
TOTAL	1,194,904	1,165,424	1,397,257	1,539,299

* Individual aircraft data was not available for FY 84. The total hours of all asterisked aircraft for FY 84 was 212,256, which is included in the FY 84 total.

TABLE I-4

U.S. ARMY RESERVE FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AH-1	50*	0	250	960
CH-47	4,178	4,222	5,618	4,464
OH-6	37	0	0	0
OH-58	10,296	8,313	9,680	7,675
UH-1	51,497	51,665	55,258	64,140
UH-60	117	86	384	3,280
C-12	39*	0	0	0
OV/RV-1	9*	0	200	100
RU-21	985	1,112	972	1,572
T-42	1,012	1,006	1,098	1,440
U-8	2,734	2,584	3,932	3,800
U-21	<u>1,251</u>	<u>1,285</u>	<u>1,370</u>	<u>2,500</u>
TOTAL	72,205	70,273	78,762	89,931

* These hours were flown by Individual Ready Reserve (IRR) personnel in active component aircraft.

TABLE I-5

U.S. ARMY NATIONAL GUARD FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AH-1	11,044	18,324	24,503	34,694
AH-64	0	0	0	2,496
CH-47	4,529	5,102	5,508	5,508
CH-54	7,704	8,189	8,500	8,323
OH-6	27,462	29,547	30,680	30,869
OH-58	49,020	51,098	51,460	57,768
UH-1	171,373	174,286	203,376	174,142
UH-60	373	226	3,654	5,670
C-12	7,760	9,519	7,200	10,800
OV/RV-1	5,785	5,609	6,000	7,200
T-42	4,768	4,297	3,936	4,200
U-8	6,697	6,798	8,576	6,890
U-21	3,800	3,850	4,500	3,200
UV-18	<u>2,517</u>	<u>2,485</u>	<u>2,600</u>	<u>2,700</u>
TOTAL	302,832	319,330	360,493	358,460

TABLE I-3, I-4, I-5

TOTAL	<u>1,642,146</u>	<u>1,555,027</u>	<u>1,836,512</u>	<u>1,987,690</u>
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The increased number of flying hours for FY 86 and FY 87 reflects the Army upgrade initiative made possible by additional congressional funding. These added upgrade hours are shown by aircraft system on Table I-6.

TABLE I-6

FLYING HOURS UPGRADE PROGRAM
(Hours in Thousands)

<u>Aircraft</u>	<u>FY 86</u>	<u>FY 87</u>
AH-1	50	100
OH-58	50	100
UH-1	50	81
UH-60	<u>20</u>	<u>32</u>
TOTAL	170	313

Tables I-7, I-8, and I-9 reflect trends in OPTempo (hours/crew/month) in the operational aviation units for major aircraft.

TABLE I-7

ACTIVE U.S. ARMY FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AH-1	9.8	10.7	12.5	17
CH-47	12.9	13.1	9.7	10.5
OH-58	9.4	11.3	12.0	17.0
UH-1	14.2	19.3	17.2	18.0
UH-60	13.5	10.6	16.8	17.0

TABLE I-8

U.S. ARMY RESERVE FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
CH-47	7.8	4.0	8.5	5.1
OH-58	4.9	3.0	5.7	4.8
UH-1	8.2	6.8	12.5	9.9
UH-60	8.0	0.6	3.6	7.8

TABLE I-9

U.S. ARMY NATIONAL GUARD FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AH-1	4.6	9.4	7.1	10.3
CH-47	5.7	6.9	8.5	8.5
OH-58	6.8	7.5	7.1	7.6
UH-1	10.0	9.5	10.9	11.2
UH-60	8.0	1.0	10.7	10.4

Table I-10 reflects combined arms proficiency requirements for the Active Army expressed in terms of hours/crew/month (OPTEMPO).

TABLE I-10

ACTIVE FLYING HOURS PER MONTH REQUIRED FOR COMBINED ARMS CREW PROFICIENCY

	<u>Attack Pilot</u>	<u>Cavalry Pilot</u>	<u>General Support</u>	<u>Combat Support</u>	<u>Medevac</u>
AH-1	17.3	22.8	--	--	--
OH-58	18.0	20.8	15.3	--	--
UH-1/UH-60	22.7	20.8	16.8	23.2	20.5
CH-47	--	--	10.1	--	--

The Army FHP has been constrained to some extent because of an Aircraft Procurement Army Spares (replenishment spare parts) funding shortfall that began in previous years. This funding shortfall was identified in FY 82. Congressional action has provided funds to upgrade the FHP in FY 85, and additional funds have been added in FY 86 and FY 87. The FY 87 FHP, if approved, will meet the flying hour requirement for individual crews and continue progress toward meeting the requirement for combined arms proficiency.

Training Devices and Simulators. The Army has developed and fielded technology-based training devices, simulators, and simulations which are revolutionizing the way soldiers and units train. These tools permit commanders to sustain higher levels of unit proficiency at less cost and provide training feedback previously not available.

It should be noted that many of the recent investments in training technology have not provided an absolute trade-off in OPTEMPO, but have served essentially to improve training effectiveness. For instance, the Multiple Integrated Laser Engagement System (MILES) and the instrumentation at the National Training Center allow objective evaluation and permit critique of individual and collective tasks, both areas of increasing importance and technical complexity.

OPTEMPO was decremented from a level of 1,000 miles per tank per year in FY 84 and earlier years to 850 miles in FY 85-86. This is more a result of prudent budget-driven decisions rather than because of investment in simulations. The family of more mature simulators and simulations that offer potential as OPTEMPO surrogates are only now beginning to be fielded. These include: Unit Conduct of Fire Trainer (UCOFT), Electronic Information Delivery System (EIDS), and Army Training Battle Simulation System (ARTBASS).

Near-term offsets to support investment in simulators have concentrated more on procurement accounts such as Procurement Ammunition Army (PAA) than on operating and support costs.

The UCOFT provides the best example of this situation. After UCOFT is fielded to each M1 tank battalion, each tank is decremented 34 main-gun rounds as of the 2-year fielding date. The cost avoidance associated with this reduction is shown in Table I-11.

TABLE I-11
UCOFT MUNITIONS COST AVOIDANCE
(\$ in dollars)

<u>TYPE OF ROUND</u>	<u>ROUNDS REQUIRED/TANK/YEAR</u>	<u>COST/ ROUND</u>	<u># TANKS/ BATTALION</u>	<u>COST SAVINGS PER BATTALION PER YEAR</u>
105MM				
TP-T	14	\$132*	58	\$107,184
DS-TP	20	\$168*	58	<u>\$194,880</u>
				\$302,064
120MM				
TP-T	14	\$1,166**	58	\$ 946,792
TPCSDS-T	20	\$715**	58	<u>\$ 829,400</u>
				\$1,776,192

* FY 86 Projected Costs.

** Average of FY 86, FY 87, and FY 88 projected procurement costs.

Further, annual cost avoidance associated with UCOFT fuel and maintenance costs is estimated at \$320,000 per battalion. Most important, however, these simulators have provided soldier training opportunities transcending the common constraints associated with full service firing.

The family of flight simulators is also illustrative of the cost avoidance gained by the intelligent integration of this technology into aviation training.

TABLE I-12

EFFICIENCY IN TRAINING FROM SIMULATORS
(\$ in millions)

<u>AIRCRAFT</u>	<u>COST OF SIMULATOR</u>	<u>COST AVOIDANCE PER YEAR</u>	<u>PAYBACK PERIOD</u>
UH-1	2.5	6.1	.4 YRS
UH-60	10.6	5.2	2.0 YRS
AH-64	22.5	8.1	2.8 YRS
AH-1	15.1	2.9	5.2 YRS

The estimated annual cost avoidance in operations and support costs attributed to these simulators is \$387 million.

Several emerging training simulators appear to have tremendous potential for more efficiently enhancing unit proficiency. The Tank Weapons Gunnery Simulation System (TWGSS) is a precision laser device used with tanks and Bradley Fighting Vehicles. This device will allow tankers and infantrymen to practice gunnery by firing a precision laser beam at targets rather than through expenditure of live ammunition. Another emerging trainer is Simulation Networking (SIMNET). This joint Army and DARPA effort is developing computer technology possessing significant potential to enhance the quality of maneuver training. As this technology continues to develop, a series of training effectiveness analyses will measure its effect in the attainment and sustainment of unit maneuver proficiency.

Training devices, simulators and simulations have significantly altered the way soldiers and units train. This trend will continue as emerging devices -- once certified as providing training transfer at an affordable cost -- are developed and fielded. Our future challenge is to maintain the proper balance between device-based training and the more traditional but essential methods of gunnery and maneuver practice for combat.

Table I-13, I-14, and I-15 show total Army simulator requirements by component. Further breakdown of active Army simulator requirements by theater are shown in Table I-28, page I-19.

TABLE I-13

ACTIVE U.S. ARMY MAJOR SIMULATOR REQUIREMENTS

<u>TYPE SIMULATOR</u>	<u>TOTAL PROCUREMENT</u>	<u>On Hand</u>		<u>PROJECTED</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Multiple Integrated Laser Engagement System (MILES)	98 Battalion Sets	48	48	48	72
UCOFT	182	0	22	73	97
Army Training Battle Simulation System (ARTBASS)	19 (Active/Reserve Use)	0	0	5	10

MILES uses a family of eye-safe lasers to simulate firing and effects of direct fire weapons, providing real-time casualty assessment and allowing unparalleled realism in tactical engagement simulation.

The Unit Conduct of Fire Trainer (UCOFT) is a computer driven tank and fighting vehicle gunnery simulator. It is being fielded to all M60A3, M1, M1A1, and M2/3 battalion sized units, one per unit.

ARTBASS is a computer driven, battalion level, command and staff trainer. It is van mounted, and each system will support all Active and RC combat units in a given geographical area.

TABLE I-14

U.S. ARMY RESERVE MAJOR SIMULATOR REQUIREMENTS

<u>TYPE SIMULATOR</u>	<u>TOTAL PROCUREMENT</u>	<u>ON HAND</u>		<u>PROJECTED</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
MILES	3* Bn Set Equivalents	0	0	0	0
MCOFT	5**	0	0	0	0

* When fully fielded, MILES will provide one company set per maneuver battalion for use at home station and storage at USAR Center (or ARNG Armory for National Guard).

** The 3 USAR Tank Battalions and the 2 USAR Armor Training Divisions will receive one MCOFT each.

TABLE I-15

U.S. ARMY NATIONAL GUARD MAJOR SIMULATOR REQUIREMENTS

<u>TYPE SIMULATOR</u>	<u>TOTAL PROCUREMENT</u>	<u>ON-HAND</u>		<u>PROJECTED</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
MILES	62* Bn Set Equivalents	0	0	0	7
MILES	55* Bn Sets (Joint ARNG/ USAR use)	0	0	6	18
MCOFTS	72	0	0	1	5

* Battalion Sets to be located at 33 major Reserve Component (RC) training sites

MCOFT is the Mobile (van mounted) version of UCFT. It is specifically designed to be transported to dispersed RC units. Each ARNG M60A3, M1, M1A1, and M2/3 battalion will receive an MCOFT.

Flight simulator hours are a major resource in the Army's achieving its aviation training readiness goal. Simulator hours supplement and complement the Army Flying Hour Program (FHP). As the Army is not sufficiently funded in required flying hours to meet its aviation training readiness goal, simulator hours provide a means of supplementing FHP resources directed to individual and crew training proficiency. In the total individual, crew, special, unit and combined arms training proficiency required in achieving an aviation training readiness goal, the direct contribution of simulator training to individual and crew training proficiency permits an increased amount of FHP resources to be applied in other training requirements and alleviates the impact of any FHP decrement. Flight simulator hours complement the FHP as a less expensive and safer means to achieve certain flight training tasks. Significant savings in spare parts, POL, and gunnery ammunition are obtained when flight simulator use is appropriate in achieving a flight training task.

Tables I-16, and I-17 summarize actual and estimated flight simulator hours in terms of total hours by type flight simulator. The totals reflect only pilot hours, or the hours in which the simulator is activated for use. A greater total of training time is actually achieved through simultaneous copilot and 3-man crew use; however, this data is not collected. Army Reserve uses Active forces' flight simulators. Flight simulator hours are included within the Active force display, and are not separately reported.

TABLE I-16

ACTIVE U.S. ARMY AND RESERVE FLIGHT SIMULATOR HOURS

<u>Aircraft Simulator Type</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
UH-1	193,544	190,349	169,612	170,000*
AH-1	3,733	23,813**	24,700	29,800
CH-47	9,268	7,417***	8,500	14,900****
UH-60	5,597	7,097	7,800	8,800
AH-64	*****	*****	450*****	8,000
TOTAL	212,142	228,676	211,062	231,500

TABLE I-17

U.S. ARMY NATIONAL GUARD FLIGHT SIMULATOR HOURS

<u>Aircraft Simulator Type</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
UH-1	7,712	7,726	7,800	8,000

* Decrease in UH-1 flight simulator hours reflects an increase in flight training devices which can substitute for the UH-1 flight simulator. Aviators are not restricted to training in an assigned aircraft flight simulator.

** Increase in hours beginning FY 85 reflects increase in AH-1 simulator fielding.

*** Decrease in hours in FY 85 and FY 86 is due to simulator modifications to accommodate CH-47D fielding.

**** FY 87 increase reflects use caused by CH-47D fielding.

***** Flight simulator not fielded.

***** Indicates one month's use.

Range Modernization/Improvement. The Army's Range Modernization Program has been established to meet the needs of new weapons systems such as the Abrams Tank and the Bradley Fighting Vehicle and also to replace and upgrade range facilities which have suffered from years of low priority funding. The program consists of a series of standard design, site adaptable ranges and a family of type-classified targets. The program is centrally managed and funded by the Department of the Army through the Army Training Support Center.

The keystone of the range package is the Multi-Purpose Range Complex (MPRC). This range, when supported by smaller "feeder" ranges, is capable of handling gunnery training requirements up to platoon level for tanks and infantry/cavalry fighting vehicles. It also supports the aerial gunnery requirements for the Army's attack helicopter units. The array of computer-controlled infantry and armor targets, stationary and moving, presents a realistic and challenging training experience for these crews and units.

Another important aspect of the Range Program is the construction of Military Operations in Urbanized Terrain (MOUT) complexes. These facilities meet the need for training maneuver units in the challenging task of fighting in cities and towns. Each complex consists of a live-fire assault course, where individual and team skills are honed, and a collective training facility, where units up to company level can train in the collective skills associated with maneuver, command and control, and coordination that are so vital to success in this challenging environment.

TABLE I-18

ACTIVE U.S. ARMY MAJOR RANGE MODERNIZATION PROGRAM

Type Range	In Use		Projected for Construction	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
MPRC	0	1	11	1
MOUT	0	0	2	1

TABLE I-19

U.S. ARMY NATIONAL GUARD RANGE MODERNIZATION PROGRAM

Type Range	In Use		Projected for Construction	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
MPRC	0	0	0	0
MOUT	0	0	1	0

Training Munitions. The cost growth of training ammunition from FY 1984 through FY 86 shown in Table I-20 is the direct result of force modernization, to include such systems as the M1A1 Tank, Bradley Fighting Vehicle, 60mm Light Weight Company Mortar (LWCM), and AH-64, which use much more costly ammunition than the systems they replace. A breakdown of training munitions expended by theater is shown in Table I-29, page I-19.

TABLE I-20

TOTAL U.S. ARMY TRAINING MUNITIONS PROCURED/EXPENDED
(\$ in millions)

<u>Actual</u>				<u>Estimated</u>	
<u>FY 84</u>		<u>FY 85</u>		<u>FY 86</u>	<u>FY 87</u>
<u>Procured</u>	<u>Expended</u>	<u>Procured</u>	<u>Expended</u>	<u>Procurement</u>	<u>Procurement</u>
526.0	732.7	587.9	739.6	605.2	526.7

Expended values exceed procurement values because the Army uses ammunition for training which was procured in earlier years. Examples include 155mm howitzer and 60mm mortar ammunition.

FY 87 procurement is down as a result of the Army's effort to have a balanced, equitable program Army-wide.

The Army's Standards in Training Commission (STRAC) was implemented Army-wide 1 October 1985. During FY 86, STRAC training strategies and associated training ammunition requirements will be evaluated with the goal of further refinement. Over the past several years, STRAC, through careful examination of the relationship between live-fire and proficiency and the availability of simulators, subcaliber devices and other alternative training means, has reduced training ammunition requirements. Examples are shown in Table I-21.

TABLE I-21

REDUCTIONS IN TRAINING MUNITION REQUIREMENTS

<u>TYPE AMMO</u>	<u>PREVIOUS ROUNDS PER TUBE</u>	<u>STRAC ROUNDS PER TUBE</u>
105mm Tank	210	134*
155mm Howitzer	350	232
4.2 in Mortar (HE)	250	146
2.75 in Rocket	406	160

* 100 rounds when Unit Conduct of Fire Trainer (UCOFT) is truly integrated into unit training programs.

Cost comparison per round for selected new generation weapon systems are shown in Table I-22.

TABLE I-22

COSTS PER ROUND OF SELECTED TRAINING MUNITIONS
(\$ in dollars)

<u>Old</u>	<u>Cost/Rnd</u>	<u>New</u>	<u>Cost/Rnd</u>
105mm Tank: TP-T	\$132	120mm Tank: TP-T	\$1166
DS-TP	\$168	DS-TP	\$ 715
.50 Cal M113	\$ 1	25mm Bradley: TP-T	\$ 15
60mm Mortar (HE)	\$ 0 (Assets on hand)	60mm LWCM (HE) w/MO Fuze	\$ 145
20mm AH-1	\$ 3.5	30mm AH-64	\$ 10.19

All costs are FY 86 projected procurement costs except for 120mm tank ammunition which is the average projected procurement cost for FY 86, FY 87, and FY 88. Because of the rising cost of the Army's total training ammunition requirements, live-fire training is being carried out for some weapons with less than the required amount of ammunition. Examples of such currently constrained training ammunition items include 2.75 inch rockets and both service and practice light anti-tank weapons (LAW).

Service Exercise Participation. The focus of unilateral Army training exercises will continue to support the training goal of building an Army trained to mobilize, deploy, fight, and win anywhere in the world. The Army must train as it fights. As strategic imperatives change, the implications for Army training are significant. Deterrence and warfighting will require forces with inherent utility for low-, medium-, and high-intensity conflict. All training must emphasize combat effectiveness in both joint and combined tactical scenarios. Training remains the number one priority--only through demanding, realistic training can the Army be prepared today for tomorrow's battlefields.

Units of the Army National Guard and Army Reserve regularly participate in Active Army exercises under the Partnership and Overseas Deployment Training (ODT) programs. During FY 85, 20,000 personnel representing 1,012 Reserve Component (RC) units/cells had the opportunity to train with Active Army counterparts as part of the program. During FY 86, 27,000 personnel and 1,810 units/cells will participate. Of significance is the Army National Guard 32d Infantry Brigade (WI) deployment from the U.S. to Europe to participate in REFORGER, the first time a brigade-size RC unit has deployed overseas for REFORGER.

The National Training Center (NTC), Ft. Irwin, California, provides a realistic training environment for units to perfect collective tactical mission tasks. In FY 86 and FY 87, 28 mechanized infantry and tank battalion task forces will conduct 2 weeks each of intensive training at the NTC. Two of these task forces each year will be Reserve Component Roundout units. These exercises are considered the best tactical unit training in the Army and make significant contribution to force readiness.

The Army plans to participate in 45 JCS exercises in FY 86 and 44 JCS exercises in FY 87. The major types of exercises, including Field Training Exercises (FTX), Command Post Exercises (CPX), and Special Operations Exercises (SOEX), provide the full spectrum of training benefits. These exercises stress interoperability and joint tactics, techniques and procedures which are keys to the success of operations with joint forces. The majority of these exercises are overseas, providing invaluable training in mobilization, deployment, reception, and employment phases as well as training in various environments worldwide. Additionally, the strategic, tactical, and logistic systems are comparably taxed to support different force levels for each exercise. Learning objectives are incorporated into JCS exercises, constantly reviewed for adequacy and applicability and evaluated in light of current national strategy, doctrine, and military requirements. In addition, JCS exercises provide training with other U.S. Services and allied forces as well as integration of Reserve Component forces. All CINCs' requirements are met by meticulous selection of both Active and Reserve Component units to test plans and warfighting capabilities in realistic combat scenarios. Further, participation in worldwide JCS exercises demonstrates U.S. resolve and intent to honor treaty obligations, to maintain a credible presence, and to provide opportunities to operate in accordance with the laws of war. Table I-23 shows total Army participation in the JCS exercise program. Further breakdown of JCS exercise participation by theater is shown in Table I-30, page I-19.

TABLE I-23

U.S. ARMY PARTICIPATION IN JCS EXERCISE PROGRAM

<u>Type of Exercise</u>	<u>NUMBER OF EXERCISES</u>			
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
FTX	26	20	25	25
CPX	8	12	14	11
SOEX	8	10	6	10

U.S. Army Theater Perspective on Training. The following series of tables provides a perspective on training activities by theater in terms of data shown previously in this chapter for the Army as a whole.

TABLE I-24

ACTIVE U.S. ARMY BATTALION TRAINING DAYS BY THEATER
(CONUS)

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs
Armor	*		29	3140	29	2712	29	2374
Infantry	*		43	5986	48	5018	51	4896
Mech Infantry	*		20	2738	20	2279	20	2088
Field Artillery	*		49	6023	49	5962	47	5525
Armored Cavalry	*		9	1268	8	998	8	897
Air Cavalry	*		4	595	5	595	5	595
Combat Engineer	*		18	1359	20	1126	20	1107
TOTAL			172	21109	179	18690	180	17482

* Accurate FY 84 BTD theater figures are not available.

TABLE I-25

ACTIVE U.S. ARMY BATTALION TRAINING DAYS BY THEATER
(EUROPE)

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs
Armor	*		24	4771	24	4006	24	4887
Infantry	*		5	1010	5	1050	5	1050
Mech Infantry	*		22	4328	22	3634	22	4434
Field Artillery	*		33	8207	34	6890	31	7573
Armored Cavalry	*		10	2202	10	1849	10	2255
Air Cavalry	*		2	0	0	0	0	0
Combat Engineer	*		11	4180	11	3510	15	4282
TOTAL			107	24698	176	20939	107	24481

* Accurate FY 84 BTD theater figures are not available.

TABLE I-26

ACTIVE U.S. ARMY BATTALION TRAINING DAYS BY THEATER
(PACIFIC)

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs	Number of Units	BTDs
Armor	*		2	322	2	322	2	324
Infantry	*		9	1758	12	1924	12	2436
Mech Infantry	*		2	324	2	324	2	324
Field Artillery	*		7	1126	8	1292	8	1292
Air Cavalry	*		2	277	2	305	2	292
Combat Engineer	*		2	323	2	323	2	323
TOTAL			24	4126	28	4490	28	4991

* Accurate FY 84 BTD theater figures are not available.

TABLE I-27

ACTIVE U.S. ARMY TOTAL FLYING HOURS BY THEATER

THEATER	ACTUAL		PROJECTED	
	FY 84	FY 85	FY 86	FY 87
CONUS	404,701	395,854	450,388	506,016
EUROPE	188,920	146,669	225,912	284,450
PACIFIC	88,335	75,923	86,732	92,017

TABLE I-28

ACTIVE U.S. ARMY SIMULATOR REQUIREMENTS BY THEATER

<u>THEATER</u>	<u>ON HAND</u>		<u>PROJECTED</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>CONUS</u>				
MILES	16	16	16	28
UCOFT	0	20	43	54
ARTBASS	0	0	3	7
<u>EUROPE</u>				
MILES	30	30	30	42
UCOFT	0	2	28	41
ARTBASS	0	0	2	2
<u>PACIFIC</u>				
MILES	2	2	2	2
UCOFT	0	0	2	2
ARTBASS	0	0	0	1

TABLE I-29

U.S. ARMY TRAINING MUNITIONS EXPENDED BY THEATER
(\$ in Millions)

<u>THEATER</u>	<u>FY 84</u> <u>EXPENDED</u>	<u>FY 85</u> <u>EXPENDED</u>
CONUS	392.3	399.6
EUROPE	181.7	168.7
PACIFIC	27.3	25.5

TABLE I-30

THEATER PARTICIPATION IN JCS EXERCISE PROGRAM

<u>THEATER</u>	<u>NUMBER OF EXERCISES</u>			
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
CONUS	10	13	11	17
EUROPE	23	20	26	19
PACIFIC	9	9	8	10

Conclusion. Collective unit training for the total Army force has been and remains a priority effort. Collective training has been significantly enhanced through training readiness improvement programs. Modernization of training equipment, facilities, simulators and devices greatly enhance the ability of Army forces to train for war. Collective unit training continues to improve with this added modernization while achieving efficiency in training costs.

Sustainment of desired training readiness levels is a function of operating tempo, which in turn is dependent on the availability of resources such as fuel, repair parts, and ammunition required to achieve a ready state. The FY 87 budget provides the resources required to continue the momentum gained over the past several years.

CHAPTER II U.S. NAVY

Within the Navy, collective unit training prepares groups (teams, crews, etc.) to accomplish tasks required of each group as an entity. Intra-unit training, which emphasizes basic team proficiency and safety considerations, is accomplished first; inter-unit training, which trains groups in integrated warfighting skills and prepares them for deployment, then follows and builds on the skills developed in intra-unit training.

Two general measures of the level of effort devoted to collective unit training are steaming days for afloat units and flying hours for aviation units.

Ship Steaming Days. The Navy's goal for training operating tempo (OPTEMPO) is an average of 29 steaming days per quarter for the non-deployed fleets. The deployed fleets normally are allocated the additional resources required to support 50.5 steaming days per quarter; this provides them the means to carry out assigned operational tasks, including the presence of one carrier battle group in the Indian Ocean, as well as the resources to support training. In FY 80 - FY 82, and again in FY 84, unscheduled increases in steaming days devoted to operational tasks were funded by supplemental appropriations and internal reprogrammings. The FY 86 budget, as approved by the Congress, funds steaming days at a level that should continue to maintain training operations of an average of 29 days per quarter for the non-deployed fleets. The FY 87 budget request maintains this level. Tables II-1, and II-2 summarize actual and estimated ship steaming days per quarter for each of the four fleets and associated reserve elements. U.S. Navy ship steaming days by theater and class of ship are shown at Tables II-18, II-19, II-20, and II-21 on pages II-13 through II-16.

TABLE II-1

ACTIVE U.S. NAVY SHIP STEAMING DAYS PER QUARTER

<u>Type Fleet</u>	<u>Tng/Ops Goals</u>	<u>Actual</u>		<u>Estimated</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Non-Deployed</u>					
Second Fleet	29	30.7	29.7	31.0	31.0
Third Fleet	29	25.7	25.7	27.0	27.0
<u>Deployed</u>					
Sixth Fleet	50.5	67.4*	52.9	50.0	50.0
Seventh Fleet	50.5	52.6	54.2	51.0	51.0

* FY 84 actual steaming days reflect requirements for continuous Indian Ocean presence and Eastern Mediterranean contingency operations.

TABLE II-2

U.S. NAVAL RESERVE SHIP STEAMING DAYS PER QUARTER

<u>Type Fleet</u>	<u>Tng/Ops Goals</u>	<u>Actual</u>		<u>Estimated</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Non-Deployed</u>					
Second Fleet	14.7	18.2	14.7	14.7	21.0*
Third Fleet	14.7	14.0	16.8	14.7	21.0*

* Training/Operations Goals for U.S. Naval Reserve increase to 21 days per quarter in FY 87. This change reflects requirement for increased OPTEMPO to maintain readiness of Active/Reserve crews of more modern Naval Reserve Forces (NRF) ships.

Aircrew Training. The flying hours used by the Navy to reach readiness levels are shown in Tables II-3, II-4, II-5, and II-6. Tables II-3 and II-4 show the flying hour programs in terms of hours flown by aircraft in the active and reserve inventory. Flying hours projected for FY 87 reflect continued efforts to attain a high state of readiness. Tables II-5 and II-6 show the flying hour program by hours per crew per month. Navy tactical aircrews will average a slightly higher number of hours per month in FY 86 and FY 87 than the actual FY 85 figure.

TABLE II-3

ACTIVE U.S. NAVY FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-6	59,378	61,194	60,947	63,173
A-7	97,486	99,686	91,687	80,382
F/A-18	11,184	19,290	33,017	51,962
F-4	6,302	7,895	3,846	0
F-14	84,275	82,181	87,732	90,667
E-2	29,887	30,720	25,066	26,487
EA-6	17,480	16,631	17,460	19,516
SH-3	37,760	44,209	43,439	45,544
S-3	48,886	48,585	47,854	50,153
SH-2	36,180	37,034	36,528	36,452
SH-60B	N/A*	9,178	16,912	27,931
P-3	162,947	164,443	155,474	156,171
TOTAL	591,765	621,046	619,962	648,438

* SH-60B fleet introduction in FY 85.

TABLE II-4

U.S. NAVAL RESERVE FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-7	16,297	22,761	17,533	15,693
F/A-18	167	1,368	2,805	6,365
F-4	12,078	7,379	5,160	0
F-14	0	2,695	4,590	9,239
E-2	3,177	3,353	2,706	2,763
RF-8	2,636	1,466	931	950
EA-6	2,316	2,407	1,913	1,952
SH-3	8,740	5,355	4,862	4,702
SH-2	730	3,281	7,824	7,725
P-3	51,888	52,135	47,286	48,137
TOTAL	98,029	102,200	95,610	97,526
Tables II-3, II-4				
TOTAL	689,794	723,246	715,572	745,964

TABLE II-5

ACTIVE U.S. NAVY FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-6	25	23	22	23
A-7	21	22	21	21
F/A-18	19	22	22	22
F-4	18	23	22	0
F-14	22	20	22	22
E-2	38	34	32	32
EA-6	26	23	23	23
SH-3	27	28	27	27
S-3	23	28	28	28
SH-2	22	22	22	22
SH-60B	N/A*	26	25	24
P-3	40	42	42	42

* SH-60B fleet introduction in FY 85.

TABLE II-6

U.S. NAVAL RESERVE FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-7	8.2	9.0	9.2	10.6
F/A-18	0	10.6	10.1	10.5
F-4	11.3	8.9	10.0	0
F-14	0	6.3	10.9	10.9
E-2	10.8	10.0	10.4	10.6
RF-8	12.9	10.6	10.6	10.8
FA-6	12.9	10.6	10.6	10.8
SH-3	10.0	10.2	10.2	10.4
SH-2	0	10.6	10.6	10.6
P-3	10.4	10.0	10.2	10.2

Training Devices and Simulators. The Navy has made considerable progress in the use of simulators of various types to improve collective unit training. Wargaming simulators are increasingly being used to enhance or supplement command tactical training. The aviation community continues to expand the use of operational flight trainers and weapons system simulators. The Navy aviation simulator programs are geared to augment and complement aircraft flight training. The emphasis is on crew training that can be performed best by the use of simulators. Simulator improvements will be achieved for the F-18, F-14 and SH-60B in FY 86 and FY 87. Although there have been improvements, continued strong support for the basic flying hour program is essential to ensure that a cost-effective balance is achieved between day-to-day flying and simulation training. Tables II-7, II-8, II-9 and II-10 outline major aviation operational flight trainers and weapons system trainers currently being utilized by Navy forces.

TABLE II-7

ACTIVE U.S. NAVY OPERATIONAL FLIGHT TRAINERS/NIGHT CARRIER LANDING TRAINERS

Aircraft Simulator Type	Total Simulator Requirements	On Hand		Projected	
		FY 84	FY 85	FY 86	FY 87
A-6E	2	2	2	2	2
A-7E	2	2	2	2	2
E-2C	2	2	2	2	2
F-14A	4	4	4	4	4
F-18A	4	1	3	4	4
P-3C	6	6	6	6	6
SH-60B	2	1	1	2	2
CH-46D	2	1	1	1	1
TA-4	9	9	9	9	9
T-2C	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>
TOTAL	40	35	37	39	39

TABLE II-8

U.S. NAVAL RESERVE OPERATIONAL FLIGHT TRAINERS/NIGHT CARRIER LANDING TRAINERS

Aircraft Simulator Type	Total Simulator Requirements	On Hand		Projected	
		FY 84	FY 85	FY 86	FY 87
P-3	1	1	1	1	1
F-4	0	1	0	0	0
F-18	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	2	2	1	1	1
Tables II-7, II-8					
TOTAL	<u>42</u>	<u>37</u>	<u>38</u>	<u>40</u>	<u>40</u>

TABLE II-9

ACTIVE U.S. NAVY WEAPONS SYSTEM TRAINER/WEAPONS TACTICS TRAINER

<u>Aircraft Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-6E	2	2	2	2	2
EA-6B	1	1	1	1	1
A-7E	3	4	4	3	3
F-14A	3	3	3	3	3
F-18	3	1	2	3	3
S-3A	5	5	5	5	5
SH-2F	2	2	2	2	2
SH-3H	2	2	2	2	2
SH-60B	2	0	0	0	2
TA-4	9	9	9	9	9
T-2C	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>
TOTAL	39	36	37	37	39

TABLE II-10

U.S. NAVAL RESERVE WEAPONS SYSTEM TRAINER/WEAPONS TACTICS TRAINER

<u>Aircraft Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
EA-6A	1	1	1	1	1
A-7B	1	2	2	1	0
P-3	3	3	3	3	3
RF-8G	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>
TOTAL	6	7	7	6	4
Tables II-9, II-10					
TOTALS	<u>45</u>	<u>43</u>	<u>44</u>	<u>43</u>	<u>43</u>

TABLE II-11

ACTIVE U.S. NAVY OPERATIONAL FLIGHT TRAINER/
NIGHT CARRIER LANDING TRAINER HOURS

<u>Aircraft Simulator Type</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-6E	2676	3130	2375	2750
A-7E	2431	1935	3600	3350
E-2C	3750	3304	4375	4370
F-14A	6383	7524	10040	11000
F-18	3589	3879	13500	13500
P-3C	17798	16232	18637	18250
SH-60B	1060	2257	4870	6250
CH-46D	2530	2223	2500	2500
TA-4	31952	29306	34468	35775
T-2C	<u>29703</u>	<u>27013</u>	<u>34052</u>	<u>35714</u>
TOTAL	101872	96803	128417	133459

TABLE II-12

U.S. NAVAL RESERVE OPERATIONAL FLIGHT TRAINER/
NIGHT CARRIER LANDING TRAINER HOURS

<u>Aircraft Simulator Type</u>	<u>Actual*</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
P-3	0	0	250	250
Tables II-11, II-12				
TOTAL	<u>101872</u>	<u>96803</u>	<u>128667</u>	<u>133709</u>

* Reserve P-3 Operational Flight Trainer underwent extensive modernization and maintenance in FY 84 and FY 85.

TABLE II-13

ACTIVE U.S. NAVY WEAPON SYSTEM TRAINER/
WEAPONS TACTICS TRAINER HOURS

<u>Aircraft Simulator Type</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-6E	6042	7265	7750	8000
EA-6B	3715	3725	4000	4000
A-7E	4526	5877	8632	8550
F-14	5726	3923	6750	6750
F-18	2214	2414	7750	11750
S-3A	11138	7474	13000	10750
SH-2F	6992	5423	5250	5000
SH-3H	6565	5453	8000	8000
SH-60B	<u>N/A *</u>	<u>N/A *</u>	<u>N/A *</u>	<u>3000</u>
TOTAL	46918	41554	61132	65800

* SH-60B WST/WTT will not be available until FY 87.

TABLE II-14

U.S. NAVAL RESERVE WEAPON SYSTEM TRAINER/
WEAPONS TACTICS TRAINER HOURS

<u>Aircraft Simulator Type</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
EA-6A	320	115	300	300
A-7B	1053	345	225	0
A-7E				400
P-3	856	1354	1725	1850
RF-8G	<u>137</u>	<u>65</u>	<u>50</u>	<u>0</u>
TOTAL	2366	1879	2300	2550

Tables II-13, II-14

TOTAL	<u>49284</u>	<u>43433</u>	<u>63432</u>	<u>68350</u>
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In general, the Navy has found that simulators are most effective as a means of complementing and extending conventional training rather than as a replacement for significant parts of it. For example, pierside trainers are now widely used to exercise combat information center personnel and sonar and radar crewman in realistic combat exercises while their ships are in port. These simulated exercises add to the learning experience and team proficiency gained in exercises at sea. In addition, the more modern simulators can replicate the full array of possible threats and the combat environment that could be expected in wartime. It is difficult, and in some cases impossible, to achieve an equally realistic combat environment through exercises at sea. Simulators of this type pay off handsomely in terms of advancing ship crews toward full exploitation of the combat capabilities of their ships.

Range Modernization/Improvement. Tactical Aircrew Combat Training System (TACTS) upgrades involve increasing the tracking capability of the Oceana and Yuma ranges from eight aircraft to 36 aircraft. NAS Fallon, as the new 36 aircraft prototype TACTS, will continue to receive improved capabilities in weapons simulation, EW integration, threat emitter density and playback (debrief) format. Funding for the Cherry Point and Charleston TACTS has been budgeted in FY 86. The Fallon and Cherry Point TACTS controlled EW ranges are scheduled for significant emitter acquisitions in FY 86, FY 87, and beyond. A new Training Range Electronics Warfare System (TREWS) located at San Clemente Island in the Southern California (SOCAL) operating area will become operational in FY 86. This new capability will be the basis for further development of EW training for surface ships.

The new Southern California Anti-Submarine Warfare Range (SOAR) became operational in FY 85. Future expansions in FY 88 and FY 92 will result in increasing its present 100 nautical square miles (NM²) size to 1000 NM². Future improvements to existing ASW ranges at the Atlantic Fleet Weapons Training Facility (AFWTF) and the Pacific Missile Range Facility (PMRF) include: underwater tracking range updates, expansion of range size, computer replacement and installation of a sonarbuoy tracking system. In FY 87, the major training complexes (AFWTF and PMRF) are programmed to receive numerous improvements in C³ equipment and tracking capability. Additionally, a new range operations center (ROC) is funded for PMRF in FY 87. The Mobile Sea Range (MSR) equipment suite will be replaced in FY 88 by a smaller more capable system which will be compatible with a greater number and variety of surface platforms. Table II-15 shows fleet instrumented training ranges by major range category and location.

TABLE II-15

U.S. NAVY RANGE MODERNIZATION/IMPROVEMENT

Type Range/Location	In Use		Projected for Construction	
	FY 84	FY 85	FY 86	FY 87
TACTICAL AIR COMBAT TRAINING SYSTEM (TACTS)				
OCEANA	1	1	*	*
YUMA	1	1	*	*
FALLON	0	1	*	*
CHERRY POINT	0	0	1	0
CHARLESTON	0	0	1	0
AIRCREW ELECTRONIC WARFARE				
PINECASTLE	1	1	**	**
FALLON	1	1	***	***
CHERRY POINT	0	0	1	0
SURFACE SHIP ELECTRONIC WARFARE				
SOUTHERN CALIF. (SOCAL)	0	0	1	0
PUERTO RICO	1	1	*	*

(Continued)

TABLE II-15 (continued)

U.S NAVY RANGE MODERNIZATION/IMPROVEMENT

Type Range/Location	In Use		Projected for Construction	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
UNDERWATER RANGE				
ST. CROIX	1	1	*	*
HAWAII	1	1	*	*
SOCAL	0	1		
WEAPONS SCORING				
WEAPONS IMPACT SCORING SYSTEM	17	18	5	0
RADAR BOMB SCORING SYSTEM	1	1	1	0
LASER SCORING	1	1		
MINE SCORING	1	1		
TELEMETRY	6	6	*	*
TRAINING COMPLEXES				
ATLANTIC FLEET WEAPON TRAINING FACILITY	1	1	*	*
PACIFIC MISSILE RANGE FACILITY	1	1	*	*
MOBILE SEA RANGE	1	1	0	****

- * Major upgrades planned
- ** Emitter density increase
- *** Major emitter acquisition
- **** New system acquisition (FY 88)

Training Munitions. Navy peacetime consumption of ordnance is governed by a balance between personnel/system requirements and affordability. A yearly training allocation is established and appropriated to the fleet for ordnance for which no training rounds are made (i.e., most threat weapons excluding torpedoes). Most Level of Effort (LOE) weapons have training equivalents which are distributed at the unit level (i.e., practice bombs, blank-loaded projectiles, gun ammunition, etc.) Tables II-16 and II-17 show trends in the procurement and expenditure of training munitions for both the active and reserve forces.

TABLE II-16

ACTIVE U.S. NAVY TRAINING MUNITIONS EXPENDITURE
(\$ in millions)

	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u> <u>Expended</u>	<u>FY 85</u> <u>Expended</u>	<u>FY 86</u> <u>Expenditure</u>	<u>FY 87</u> <u>Expenditure</u>
Threat*	476.1	632.8	703.2	321.7
LOE**	<u>502.8</u>	<u>1013.8</u>	<u>772.0</u>	<u>814.8</u>
TOTAL	978.9	1646.6	1475.2	1136.5

TABLE II-17

U.S. NAVAL RESERVE TRAINING MUNITIONS EXPENDITURE
(\$ in millions)

	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u> <u>Expended</u>	<u>FY 85</u> <u>Expended</u>	<u>FY 86</u> <u>Expenditure</u>	<u>FY 87</u> <u>Expenditure</u>
Threat*	97.5	138.9	165.0	75.4
LOE**	<u>103.0</u>	<u>222.5</u>	<u>181.1</u>	<u>191.1</u>
TOTAL	200.5	361.4	346.1	226.5
II-16, II-17 TOTAL	<u>1179.4</u>	<u>2008.0</u>	<u>1821.3</u>	<u>1403.0</u>

* "Threat munitions" are those designed for use against capital targets (ships, aircraft, etc.) which are limited in numbers and cannot be rapidly reconstituted by the enemy.

** "Level of Effort" (LOE) munitions are those designed for use against targets which are numerous and reconstitutable (troops, tanks, bridges, etc.).

Service Exercise Participation. Military forces must exercise the way they plan to fight. The Navy has made substantial progress toward this goal through emphasis on and participation in various exercises which promote force readiness and interoperability. Numerous joint, combined and Navy only exercises are held annually, with a resultant improvement in the quality of training and overall readiness. Recent joint efforts by the Navy and the other Services have resulted in an enhancement of the total force capability to conduct maritime operations. These joint exercises have identified problem areas in interoperability. Solving these problems will help to improve performance in future exercises and the joint ability to meet the threat at sea. Some examples of these exercises include:

- **SOLID SHIELD:** A major biennial joint exercise for Army, Navy, Marine, Air Force and Coast Guard personnel within the Atlantic Command to promote force readiness and joint interoperability.
- **OCEAN SAFARI:** A large-scale biennial NATO Maritime Live Exercise (LIVEX) employing NATO forces in operations to gain and maintain control of sea lanes in a multi-threat environment.
- **TEAM SPIRIT:** A large-scale air, sea, land joint/combined exercise for Pacific units to conduct amphibious/field training in Korea.
- **UNITAS:** An annual combined exercise conducted in several phases with the Naval and Air Forces of participating Latin American countries.
- **FLEETEX:** A major U. S. fleet exercise conducted 3 or 4 times a year in both the Atlantic and Pacific Fleets to provide multi-ship, multi-threat advanced level operational training.
- **DISPLAY DETERMINATION:** The major NATO exercise conducted in the Mediterranean annually to test plans for land defense of the Southern Region; the exercise involves employment of land, sea and air forces.
- **NORTHERN WEDDING/TEAMWORK:** A biennial exercise in the North Atlantic/North European area to exercise NATO capability to protect/reinforce shipping to Europe in times of crisis and/or war.
- **SAFE PASS:** The only NATO LIVEX conducted in the Western Atlantic (WESTLANT); conducted biennially for sea control, coordinated anti-submarine-warfare (ASW), surveillance operations, defense of shipping and anti-ship-missile defense (ASMD) procedures evaluation.
- **OCEAN VENTURE:** A biennial joint/combined exercise conducted in the Caribbean to train headquarters and forces for joint/combined combat operations.
- **AHUAS TARA:** An annual combined, joint U. S./Honduras counter-insurgency exercise conducted along the Caribbean coast of Honduras to provide integration training in Naval gunfire and close air support in amphibious and airborne operations.

U.S. Navy Theater Perspective on Training The following tables provide a theater (Europe, Atlantic and Pacific) perspective on training activity in terms of steaming days per quarter by class of ship.

Table II-18

<u>ACTIVE U.S. NAVY STEAMING DAYS BY THEATER BY CLASS OF SHIP</u>								
(EUROPE)								
<u>CLASS OF SHIP</u>	<u>FY 84</u>				<u>FY 85</u>			
	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>
Aircraft Carriers	69.9	56.6	67.3	37.6	67.3	27.6	44.3	74.6
Battleships	11.0	24.3	9.0	.0	.0	.0	.0	19.3
Cruisers	122.5	91.6	80.6	71.6	105.2	90.6	105.9	120.9
Destroyers	229.1	407.3	306.0	145.5	179.8	191.5	176.5	186.1
Frigates	447.6	400.9	310.7	189.1	213.8	170.8	290.7	422.9
Amphib. Warfare	116.6	318.3	187.5	158.8	110.2	116.2	109.6	302.0
Mobile Logistics	324.3	353.3	286.4	203.5	248.8	256.1	238.8	299.4
Material Spt.	13.0	57.9	45.6	25.3	20.0	29.3	75.3	22.0
Fleet Support	34.3	35.3	29.6	58.9	34.3	32.3	23.0	117.5
Ocean Research	0	0	0	0	0	0	0	.3
Total	1368.3	1745.0	1322.7	890.3	980.4	914.4	1064.1	1560.0

Table II-19

<u>ACTIVE U.S. NAVY STEAMING DAYS BY THEATER BY CLASS OF SHIP</u>								
(PACIFIC)								
<u>CLASS OF SHIP</u>	<u>FY 84</u>				<u>FY 85</u>			
	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>
Aircraft Carriers	176.2	162.8	215.1	181.2	184.8	95.6	186.8	193.1
Battleships	0	.0	4.7	.0	.3	12.0	16.0	30.0
Cruisers	257.4	345.7	422.6	406.3	467.5	400.6	519.8	622.7
Destroyers	725.6	707.3	844.5	1035.6	1136.5	841.5	903.8	1191.5
Frigates	949.1	1051.3	1200.5	1197.5	1217.1	943.7	1401.3	1720.9
Amphib. Warfare	638.7	619.0	495.2	720.3	609.1	479.2	882.1	947.7
Mobile Logistics	655.0	653.3	724.9	881.5	11.5	626.4	773.6	891.4
Material Spt.	154.8	121.2	164.2	103.6	206.1	168.8	117.2	169.8
Fleet Support	70.3	52.3	149.2	77.6	78.3	128.5	121.5	76.9
Ocean Research	2.0	.3	.3	3.0	0	0	0	3
Total	3629.1	3713.2	4221.2	4606.6	3911.2	3696.3	4922.1	5844.3

Table II-20

ACTIVE U.S. NAVY STEAMING DAYS BY THEATER BY CLASS OF SHIP
(ATLANTIC)

<u>CLASS OF SHIP</u>	<u>FY 84</u>				<u>FY 85</u>			
	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>
Aircraft Carriers	79.6	57.3	65.9	63.6	67.9	79.9	99.9	111.2
Battleships	0	.3	34.0	36.6	13.0	20.0	.3	3.7
Cruisers	69.3	119.5	92.2	159.6	136.5	89.2	226.1	138.2
Destroyers	579.1	400.6	492.5	324.3	493.8	300.4	520.1	628.7
Frigates	522.5	665.0	723.3	736.9	635.4	637.7	834.8	817.8
Patrol Combatants	67.6	99.9	98.6	78.3	79.9	37.6	102.2	69.3
Amphib. Warfare	337.3	231.1	333.7	230.1	158.8	212.8	406.9	357.0
Mine Warfare	44.0	17.3	14.0	11.7	35.0	65.9	28.3	31.0
Mobile Logistics	294.0	262.7	246.1	259.7	303.7	363.0	317.3	319.3
Material Spt.	46.0	65.6	31.6	62.3	56.3	57.3	101.9	113.2
Fleet Support	110.9	50.6	75.6	102.9	76.6	114.2	159.5	157.2
Ocean Research	0	2.7	2.3	0	.3	4.7	0	.0
Total	2150.3	1972.6	2209.8	2066.0	2057.2	1982.7	2797.3	2746.6
II-18, II 19, II-20								
Total	7147.7	7431.3	7753.7	7562.9	6947.8	6593.4	8783.5	10155.9

Table II-21

U.S. NAVAL RESERVE STEAMING DAYS BY THEATER BY CLASS OF SHIP

THEATER	CLASS OF SHIP	FY 84				FY 85			
		<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>
EUROPE									
	Amphib. Warfare	0	0	0	0	0	6.3	0	0
	Mine Warfare	<u>4.7</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	Total	4.7	0	0	0	0	6.3	0	0
PACIFIC									
	Frigate	12.7	19.0	18.6	23.0	5.0	10.7	26.0	45.3
	Amphib. Warfare	29.3	1.3	14.3	16.7	1.3	.0	.0	9.7
	Mine Warfare	70.9	53.6	169.2	161.2	63.6	82.3	179.2	185.5
	Fleet Support	<u>8.0</u>	<u>23.3</u>	<u>52.3</u>	<u>74.3</u>	<u>20.0</u>	<u>37.0</u>	<u>45.3</u>	<u>38.0</u>
	Total	120.9	97.0	254.4	275.2	89.9	130.0	250.3	278.5
ATLANTIC									
	Destroyer	11.0	16.0	7.3	16.7	0	0	0	0
	Frigates	11.7	44.6	29.6	60.6	33.6	60.6	85.2	64.3
	Amphib. Warfare	25.0	1.3	9.3	1.0	6.7	.7	6.3	12.0
	Mine Warfare	43.6	46.6	73.6	15.0	15.0	38.3	35.0	40.3
	Fleet Support	<u>18.0</u>	<u>17.6</u>	<u>30.0</u>	<u>51.9</u>	<u>5.7</u>	<u>18.3</u>	<u>55.3</u>	<u>20.6</u>
	Total	109.3	126.6	149.8	145.2	61.0	117.9	181.8	137.2
U.S. Naval Reserve									
	Total	<u>234.9</u>	<u>223.6</u>	<u>404.2</u>	<u>420.4</u>	<u>150.9</u>	<u>254.2</u>	<u>432.1</u>	<u>415.7</u>

Conclusion. Collective unit training for the Navy has been, and will continue to be, a priority effort. The resources available have generally been adequate to meet, or come close to meeting, peacetime training objectives as well as supporting operational contingencies. The existing Navy programs for training reflect a balanced mix of conventional flying and steaming training and judicious simulator utilization. Reduction of the flying hour or steaming day program below their currently established minimum objective goals, however, would significantly degrade fleet readiness and the Navy's capability to train its units for adequate execution of the nation's maritime strategy.

CHAPTER III
U.S. MARINE CORPS

USMC Ground Unit Training. Marine Corps collective training is mission-oriented, realistic, innovative, and is dependent upon the individual skills and leadership traits acquired during formal training. Marines do not fight as individuals but as a team, which requires challenging and extensive unit training. Tables III-1, and III-2 reflect the current and projected levels of unit training activity related to Marine Corps Battalion Field Training Days (BFTD). Further breakdown of BFTDs by theater are shown in tables III-16, and III-17, page III-14.

TABLE III-1

ACTIVE U.S. MARINE CORPS BATTALION FIELD TRAINING DAYS

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs
Infantry	27	2906	27	2648	27	2811	27	2866
Artillery	12	1364	12	1464	13	1561	13	1744
Armor	3	262	3	260	3	300	3	300
AAV	3	237	3	224	3	261	3	263
Cbt Eng	3	212	3	242	3	261	3	269
Recon	3	258	3	269	3	291	3	292
LAV	1	10	2	116	3	182	3	224
TOTAL	52	5249	53	5223	55	5667	55	5958

TABLE III-2

U.S. MARINE CORPS RESERVE BATTALION FIELD TRAINING DAYS
(4th Marine Division)

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs
Infantry	*		9	307	9	308	9	302
Artillery	*		5	157	5	165	5	168
Armor	*		2	48	2	60	2	60
AAV	*		1	25	1	36	1	32
Cbt Eng	*		1	23	1	29	1	26
Recon	*		1	28	1	38	1	36
LAV	*		—	—	—	—	1	28
TOTAL			19	588	19	636	20	652
III-1, III-2								
TOTAL	52	5249	72	5821	74	6303	75	6610

* Actual Battalion Field Training Day figures were not available for FY 84

A Marine Corps Battalion Field Training Day (BFTD) is defined as a day of training conducted in furtherance of a combat arms battalion's mission training program within the following guidelines:

- Training is conducted in the field away from a garrison environment or while debarked from amphibious shipping.
- One BFTD must be at least 8 hours in length. One half of a BFTD can be credited for no less than 4 hours nor more than 7 hours of training.
- A BFTD requires the training of a majority of the unit's effective strength.

Battalion Field Training Days assist the unit commander in evaluating, planning, and budgeting for his unit training program. They are based on the training activity the commander deems necessary for his unit and that training activity the unit is directed to conduct by higher authority. The BFTD measure the quantity of training conducted, not the quality of training conducted. Battalion Field Training Days are computed and reported in the same manner by all Marine Corps units.

The data presented in Tables III-1, and III-2 in general, reveals that the number of BFTD required to maintain a satisfactory level of training for the various types of combat arms battalions, remains relatively constant. Significant increases normally arise from structure growth or an anticipated increase in unit training. For example, planned activations of new artillery battalions in III MAF (FMFPAC) will cause an increase in the number of BFTD for that type of unit. Additionally, training associated with the Marine Amphibious Unit - Special Operations Capability (MAU-SOC) concept has resulted in a planned increase of BFTD for virtually all reporting units in II MAF (FMFLANT).

The associated Operation and Maintenance Costs (O&MMC) to support BFTD have remained relatively constant. Increases in funding requirements are generated by normal inflation factors, increases in operation and maintenance costs for equipment-intensive units, and increased operation and maintenance costs associated with the activation of new units or the fielding of new equipment.

Aircrew Training. The flying hours used by the Marine Corps to reach readiness levels are shown in Tables III-3, III-4, III-5 and III-6. Tables III-3 and III-4 show the flying hour program in terms of hours flown by aircraft in the active and reserve inventory. Flying hours projected for FY 87 reflect continued efforts to attain a high state of readiness. Tables III-5 and III-6 show the flying hour program by hours per crew per month. Marine Corps tactical aircrews will average a slightly higher number of hours per month in FY 86 and FY 87 than the actual figure for FY 85.

TABLE III-3
ACTIVE U.S. MARINE CORPS FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AV-8	12,804	15,386	16,629	19,400
A-4	23,087	22,214	24,027	25,108
A-6	20,227	18,413	19,092	19,841
F-4	32,435	32,166	27,679	19,804
UH-1	22,179	21,404	21,897	22,863
CH-46	56,728	57,923	61,610	64,054
CH-53	36,858	39,397	43,170	43,165
OV-10	11,363	12,010	11,560	10,725
KC-130	23,227	21,319	23,565	23,374
AH-1	19,979	20,110	21,688	22,007
F/A-18	14,762	18,867	25,220	37,135
RF-4	6,557	7,091	7,881	7,849
EA-6	<u>5,104</u>	<u>5,502</u>	<u>6,113</u>	<u>6,026</u>
TOTAL	285,310	291,802	310,131	321,351

TABLE III-4
U.S. MARINE CORPS RESERVE FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
F-4	6,224	7,677	8,735	7,712
A-4	12,824	13,714	13,881	17,454
OV-10	3,750	4,076	3,936	4,017
KC-130	4,025	4,504	3,076	3,162
EA-6	1,312	1,220	1,360	1,388
UH-1	7,280	7,141	7,223	4,392
CH-46	5,186	5,495	4,902	4,598
AH-1	6,084	5,695	5,372	4,364
F/A-18	2,387	2,623	2,591	3,346
F-21	<u>0</u>	<u>0</u>	<u>1,138</u>	<u>5,382</u>
TOTAL	49,072	52,145	52,214	55,815
Tables III-3, III-4				
TOTAL	<u>334,382</u>	<u>343,947</u>	<u>362,345</u>	<u>377,166</u>

TABLE III-5

ACTIVE U.S. MARINE CORPS FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
AV-8	17	20	18	18
A-4	17	17	18	18
A-6	25	23	23	23
F-4	19	20	21	20
UH-1	29	28	29	28
CH-46	23	24	25	25
CH-53	21	21	22	22
OV-10	19	19	20	19
KC-130	29	27	29	28
AH-1	21	21	22	22
F/A-18	24	31	25	25
RF-4	18	19	21	21
EA-6	20	22	22	22

TABLE III-6

U.S. MARINE CORPS RESERVE FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
F-4	9.3	10.8	10.9	9.6
A-4	7.9	9.0	9.4	9.6
OV-10	9.2	9.4	9.4	9.6
KC-130	12.2	9.4	9.4	9.6
EA-6	8.4	9.4	9.7	9.7
UH-1	9.6	9.6	9.5	9.7
CH-46	10.4	9.4	9.4	9.6
CH-53	11.0	9.3	9.3	9.6
AH-1	8.5	8.8	8.8	9.6

TRAINING DEVICES AND SIMULATORS. The Marine Corps has made considerable progress in the use of simulators of various types to improve collective unit training. Wargaming simulators are increasingly being used to enhance or supplement command tactical training. The aviation community continues to expand the use of operational flight trainers and weapons system simulators. Tables III-7, III-8, III-9, and III-10 show the major aviation simulators for both the Active and Reserve Marine Corps. The Marine Corps Reserve does not own separate trainers and must use those of the Active Corps.

TABLE III-7

U.S. MARINE CORPS ACTIVE AND RESERVE OPERATIONAL FLIGHT TRAINERS

Aircraft Simulator Type	Total Simulator Requirements	On Hand		Projected	
		FY 84	FY 85	FY 86	FY 87
CH-53	3	3	3	3	3
AV-8	2	1	2	2	2
UC-130	2	1	1	2	2
A-4	2	2	2	2	2
CH-46	3	2	2	2	2
AH-1	2	0	0	0	0
F/A-18	<u>2</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>
TOTAL	16	9	10	12	13

TABLE III-8

U.S. MARINE CORPS ACTIVE AND RESERVE AVIATION WEAPONS SYSTEM TRAINERS

Aircraft Simulator Type	Total Simulator Requirements	On Hand		Projected	
		FY 84	FY 85	FY 86	FY 87
F-4	4	4	4	4	4
F-18	1	0	1	1	1
AV-8B	1	0	1	1	1
A-6E	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
TOTAL	7	5	7	7	7

TABLE III-9

U.S. MARINE CORPS ACTIVE AND RESERVE OPERATIONAL FLIGHT TRAINER HOURS

Aircraft Simulator Type	Actual		Estimated	
	FY 84	FY 85	FY 86	FY 87
CH-53	3100	5500	5700	5700
AV-8	950	1750	2300	2750
UC-130	4250	3500	4400	6200
A-4	3050	3400	2900	2500
CH-46	4700	4650	5000	5000
F/A-18	<u>0</u>	<u>0</u>	<u>700</u>	<u>1000</u>
TOTAL	16050	18800	21000	23150

TABLE III-10

U.S. MARINE CORPS ACTIVE AND RESERVE AVIATION WEAPONS SYSTEM TRAINER HOURS

Aircraft Simulator Type	Actual		Estimated	
	FY 84	FY 85	FY 86	FY 87
F-4	4450	3350	3300	2050
F/A-18	0	200	1600	1500
AV-8B	0	100	800	1200
A-6E	<u>1300</u>	<u>1100</u>	<u>2200</u>	<u>1500</u>
TOTAL	5750	4750	7900	6250

The Marine Corps aviation simulator programs are geared to augment and complement aircraft flight training. The emphasis is on crew training that can be performed best by the use of simulators. Simulator improvements will be achieved for the F/A-18 and AV-8B in FY 86 and FY 87. Although there have been improvements, continued strong support for the basic flying hour program is essential to ensure that a cost effective balance is achieved between day-to-day flying and simulation training.

The Marine Corps also continues to recognize the importance of training devices and simulators in support of ground unit training. Use of simulation devices has greatly enhanced unit training by adding realism to field training exercises and reduced training costs associated with manpower, operation and maintenance of equipment/facilities, and costs attributed to ammunition expenditure. The data provided at Tables III-11 and III-12 depict detailed information concerning current and projected Marine Corps usage of ground unit training simulators.

TABLE III-11

ACTIVE U.S. MARINE CORPS WEAPONS SYSTEM TRAINER REQUIREMENTS

<u>Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected On Hand</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Training Set Fire Observer	6 FMFPAC (4) FMFLANT (2)	0	6	6	6
Moving Target Simulator	2 FMFPAC (1) FMFLANT (1)	0	0	0	2
Launch Environment Simulator	20* FMFPAC (11) FMFLANT (7)	0	0	20*	20
Air Ground Engagement Sys (AGES)	48 FMFPAC (12) FMFLANT (12)	0	0	0	24**
Multiple Integrated Laser Engagement Sys (MILES)	***	2690	3454	3658	3658
Simulated Laser Target	<u>30</u>	<u>0</u>	<u>0</u>	<u>15</u>	<u>30</u>
TOTAL	106	2690	3460	3699	3740

TABLE III-12

U.S. MARINE CORPS RESERVE GROUND WEAPONS SYSTEM TRAINER REQUIREMENTS

<u>Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected On Hand</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
MILES	0	0	0	1300***	1300
TABLES III-11, III-12 TOTAL	<u>106</u>	<u>2690</u>	<u>3460</u>	<u>4999</u>	<u>5040</u>

* Two of the Launch Environment Simulators will be located at MCLB, Albany GA as spares.

** AGES is being procured in FY 87 and FY 88

*** MILES is fielded in all three active MAF's and is being procured for the reserves in FY 86. Requirements vary depending upon commanders' needs.

Several major training devices have been procured to simulate weapons that are currently fielded. These special training devices add realism to training exercises allowing Marines to experience situations which closely resemble those combat conditions under which they may be called upon to fight.

The Training Set Fire Observer (TSFO) is a training device that is used to train Forward Observers in the adjustment of artillery and mortar fire on a given target. These devices are currently in use within all three active Marine Amphibious Forces (MAF).

The Moving Target Simulator (MTS) is a domed trainer that uses a 360 degree cinemagraphic concave surface to superimpose images of simulated incoming aircraft for the training of Stinger gunners. Two of these systems are scheduled for procurement in FY 87 for use in I MAF and II MAF units.

The Launch Environment Simulator (LES) is a device which replicates the effects of launching a Dragon or TOW missile. The procurement of this device is required to fill the training void now experienced because of the lack of a wire-guided missile trainer. Twenty of these devices are projected for use in all active MAFs in FY 86.

The Air Ground Engagement System (AGES) is a MILES-based, eye-safe laser transmitting system attached to the AH-1T Cobra helicopter, that allows Marine aviation to participate in MAGTF combined arms simulated engagement training. These systems are being fielded in I MAF and II MAF.

The Multiple Integrated Laser Engagement System (MILES) is a family of eye-safe laser transmitters, with associated detector systems, that is attached to direct fire weapons to simulate a combat environment and to assess mock battlefield casualties. This system is fielded in all three active MAFs and is being procured for the reserves in the 4th Division/Wing Team in FY 86.

The Simulated Laser Target (SLT) is a man-portable, battery operated signal source designed to generate omnidirectional eye-safe laser pulses. This device is used for pilot training and simulates a ground target being designated by a tactical laser target designator (ground or airborne). It permits simulation of laser weapons training without the constraints of high energy/high cost laser. SLTs are compatible for laser training with the A-4M/AV-8B Angle Rate Bombing System (ARBS), the A-4 Laser Spot Tracker, the A-6E TEAM laser designators/spot tracker, F/A-18 laser spot trackers, HELLFIRE laser missiles, and Laser Maverick.

The AV-8B pilot training at Marine Corps Air Station, Cherry Point, North Carolina, has been significantly upgraded with the acquisition of the Aircraft Systems Trainer, Device 15C14; the Operational Flight Trainer, Device 2F133; and the Weapons Tactics Trainer, Device 2F134. These devices (purchased by the U.S. Navy) were delivered on time, at the prescribed cost, and are housed in a facility that should serve as a model for all future aviation tactical training facilities. Each device will satisfy particular training objectives identified through the Systems Approach to Training (SAT). These training devices are essential to ensure that the full and current weapons capability is available for comprehensive pilot training. These devices are used by II MAF units.

The F/A-18 Weapons Tactics Trainer, Device 2E7, presently located at Marine Corps Air Station, El Toro, California, is scheduled for upgrade to include a simulation of the weapons capability of the new F/A-18 air-to-ground weapons delivery systems and current threat simulation. This device is used by I MAF units.

Range Modernization/Improvement. Range modernization and improvement continues to be of high priority to the Marine Corps. A concerted effort is under way at several Marine Corps commands to identify, validate and document requirements for future construction and/or upgrade of training ranges/facilities. Additional data is contained Table III-13.

TABLE III-13

ACTIVE U.S. MARINE CORPS RANGE MODERNIZATION/IMPROVEMENT PROGRAM

Type Range	In Use		Projected for Construction	
	FY 84	FY 85	FY 86	FY 87
Small Arms Ranges	76 FMFPAC (49) FMFLANT (27)	76	1 FMFLANT (1)	0
Indoor Marksmanship Trainer	0	0	1 FMFLANT (1)	4 FMFPAC (2) FMFLANT (2)

Two separate, but related, projects concerning range modernization/improvement are underway at Marine Corps Development and Education Command, Quantico, Virginia and Marine Corps Base, Camp Lejeune, North Carolina. The purpose of these projects is to identify, validate and document training range and facility requirements unique to each command. These projects will also serve as models for future application in determining training range and facility requirements at other Marine Corps commands.

The Marine Corps is currently in the process of replacing all of its Small Arms Remote Target Systems (SARTS). The systems were procured in 1971 with an anticipated service life of 10 years. The targets have reached a state of deterioration wherein replacement, rather than repair, is warranted.

Indoor Marksmanship Trainers (IMT) are being procured for use in each of the active MAF's. The IMT is a programmable or manually controlled sequence of static or moving targets that are projected onto a paper screen. Marksmanship training with all direct fire weapons, up to and including sub-caliber devices for tanks, can be accomplished using this system.

A program currently under development for use by Marine aviation is the Tactical Aircrew Combat Training System (TACTS). This system is a computer-based data communication and tracking network that provides real-time information on the flight dynamics, weapon systems status and weapons firing for aircraft on a training mission. All data is recorded for after-action debriefs and evaluation. Installation of this system is scheduled for Marine Corps Air Station, Yuma, Arizona.

There are no major range modernization or improvement projects planned solely for Marine Corps reserve units. All Marine Corps range improvement projects have reserve application and reserve units use active unit ranges during their annual training deployments.

Training Munitions. The Marine Corps continues to revalidate its requirement for expenditure of live ammunition in support of training. Figures in Table III-14 show the cost of ammunition expended for training purposes. The figures do not include aviation ordnance procured by the Department of the Navy. The procurement of ammunition for the Marine Corps reserve cannot be separately determined; ammunition procurement for the reserves is "rolled up" in the total Marine Corps requirement.

TABLE III-14
U.S. MARINE CORPS TRAINING MUNITIONS PROCURED/EXPENDED
(\$ in millions)

Actual				Estimated	
FY 84		FY 85		FY 86	FY 87
<u>Procured</u>	<u>Expended</u>	<u>Procured</u>	<u>Expended</u>	<u>Procurement</u>	<u>Procurement</u>
416.5	131.8	451.3	123.4	518	608.3

The Marine Corps is continually revalidating the requirement for the expenditure of live ammunition. In FY 84, the Marine Corps reduced the expenditure of Dragon and TOW missiles by eliminating the duplication of firing. In the past, a Dragon/TOW gunner could fire a missile during entry-level skill training and fire again, in the same year, at his first duty station. Marine Corps procurement of new weapon systems has necessitated the procurement of new and more costly munitions. The procurement of new munitions, coupled with the requirement for filling the Preposition War Reserve (PWR), has had a direct impact on ammunition availability for training. As indicated by the figures in TABLE III-14, procurement of the total Marine Corps ammunition requirement has greatly exceeded the training ammunition expended. This situation will continue until inventories of new munitions reach acceptable levels. The Marine Corps will continue to fire older munitions for training purposes, thus helping to rotate stocks and provide the means of verifying ammunition lots.

Service Exercise Participation. In order to simulate combat conditions, the Marine Corps conducts and participates in a wide range of training exercises under a variety of threat scenarios, environmental conditions, and locales. Commanders are thereby able to evaluate their contingency plans, staff coordination and command and control mechanisms. Detailed information on these exercises, by theater, is provided at Table III-15.

TABLE III-15

MAJOR U.S. MARINE CORPS FIELD TRAINING EXERCISES

<u>Theater</u>	<u>MAF*</u>			<u>MAB*</u>			<u>MAU*</u>			<u>Regiment & Below</u>			<u>Total</u>		
	<u>FY85</u>	<u>86</u>	<u>87</u>	<u>FY85</u>	<u>86</u>	<u>87</u>	<u>FY85</u>	<u>86</u>	<u>87</u>	<u>FY85</u>	<u>86</u>	<u>87</u>	<u>FY85</u>	<u>86</u>	<u>87</u>
FMFPAC**	10	13	14	9	12	15	15	11	10	76	76	75	110	112	114
FMFLANT	5	7	5	9	12	6	17	18	18	38	30	30	69	67	59
4th DWT (Reserve)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>34</u>	<u>33</u>	<u>30</u>	<u>36</u>	<u>33</u>	<u>31</u>
TOTAL	15	20	19	18	24	22	34	29	28	148	139	135	215	212	204

* Legend:

MAF: Marine Amphibious Force
MAB: Marine Amphibious Brigade
MAU: Marine Amphibious Unit

** Exercise data for the 1st Marine Amphibious Brigade (Kaneohe, Hawaii) is included in the FMFPAC data.

Marine forces participated in JCS exercises as follows: FY 85 - 21; FY 86 - 27; FY 87 - 22. Some JCS exercises included participation of Marine forces from more than a single MAF; therefore, total exercise by MAF will exceed total JCS exercises participated in by Marine forces.

The 4th Marine Division, 4th Marine Aircraft Wing and 4th Force Service Support Group (Reserve Component) are collectively entitled the 4th Division-Wing Team (DWT). In addition to those exercises shown, 4th DWT battalions, squadrons and combat service support detachments regularly participate in MAF/MAB/MAU exercises conducted by the three active MAFs.

Each Marine Amphibious Force conducts a wide range of exercise types including amphibious landings, desert exercises, jungle training, cold weather exercises, aviation-only exercises, missile-firing exercises, mountain training exercises, logistical exercises, live-fire exercises and combined arms exercises.

Annually, eight active and two reserve battalions have the opportunity to participate in combined arms exercises at the Marine Corps Air Ground Combat Center, Twentynine Palms, California. With emphasis on training at the battalion level, the combined arms exercise consists of the integration of live ordnance delivery with unit maneuver. This training allows units to incorporate all of their new weapons systems and equipment into a scenario that includes numerous live-fire events. The valuable lessons learned from the combined arms exercises are disseminated Marine Corps-wide, and provide the basis for refinement and revision of doctrine, tactics, and equipment.

Additionally, collective, as well as individual, training is conducted for over 12,000 Marines annually at the Marine Corps Mountain Warfare Training Center, Bridgeport, California. The mountainous terrain and cold weather environment of the Toiyabe National Forest, where the Marine Corps Mountain Warfare Training Center is located, provide an ideal location to train for the Marine Corps strategic roles in Northern Europe and the Western Pacific. The individual training at the Marine Corps Mountain Warfare Training Center produces a nucleus of Marines with cold weather/mountain operations experience and gives units a chance to conduct needed training prior to participating in NATO and other cold weather exercises. Nine active battalions and one reserve battalion annually receive collective training at the mountain warfare training center.

Another valuable collective training resource used by Marine Corps units is the U.S. Army Jungle Operations Training Center (JOTC), in Panama. A minimum of two Marine Corps infantry battalions participate in jungle warfare training at the JOTC annually. The training is designed for a 700-man battalion and progresses from a core curriculum of individual skill training to a modular program of instruction, including various company tactical operations as well as classes for the battalion staff.

The 4th Marine Division, 4th Marine Aircraft Wing, and 4th Force Service Support Group (Reserve Component) are collectively entitled the 4th Division-Wing Team (DWT). In addition to the exercises shown in TABLE III-16 4th DWT battalions, squadrons and combat service support detachments regularly participate in MAF/MAB/MAU exercises conducted by the three active MAFs.

U.S. Marine Corps Theater Perspective on Training. The following two tables show how battalion field training days are distributed between Marine forces oriented toward the Pacific and Atlantic theaters.

TABLE III-16

ACTIVE U.S. MARINE CORPS BATTALION FIELD TRAINING DAYS BY THEATER
(Pacific)*

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs
Infantry	18	2123	18	1768	18	1866	18	1876
Artillery	7	894	7	899	8	986	8	1144
Armor	2	202	2	199	2	225	2	225
AAV	2	154	2	141	2	149	2	151
Cbt Eng	2	157	2	178	2	181	2	189
Recon	2	200	2	183	2	201	2	202
LAV	-	-	1	23	2	92	2	134
TOTAL	33	3730	34	3391	36	3700	36	3921

* Includes Marine Amphibious Forces I and III.

TABLE III-17

ACTIVE U.S. MARINE CORPS BATTALION FIELD TRAINING DAYS BY THEATER
(Atlantic)

Type Unit	ACTUAL				PROJECTED			
	FY 84		FY 85		FY 86		FY 87	
	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs	Number of Units	BFTDs
Infantry	9	783	9	882	9	945	9	990
Artillery	5	470	5	565	5	575	5	600
Armor	1	60	1	61	1	75	1	75
AAV	1	83	1	83	1	112	1	112
Cbt Eng	1	55	1	64	1	80	1	80
Recon	1	58	1	86	1	90	1	90
LAV	1	10	1	93	1	90	1	90
TOTAL	19	1519	19	1834	19	1967	19	2037

Conclusion. The goal of all Marine Corps training programs is the overall combat readiness of the Fleet Marine Forces. To this end, the Marine Corps Combat Readiness Evaluation System (MCCRES) provides force commanders a diagnostic training-evaluation system which measures unit capability to meet operational missions. The MCCRES data are analyzed at the various command levels and at Headquarters Marine Corps to identify Marine Corps-wide training trends. All of the training programs described in this report contribute to the Marine Corps overall readiness to respond globally should the need arise.

CHAPTER IV
U.S. AIR FORCE

The following paragraphs discuss progress in collective unit training in the Air Force.

Aircrew Training. The Air Force aircrew training program maintained an aggressive "train like we fight" tempo, emphasizing realism as well as safety. Aircrews were exposed to increasing levels of sortie activity, simulated threats (airborne and surface), and complex mission scenarios while achieving the lowest mishap rate on record (1.5 per 100,000 flying hours). Significantly increased combat capabilities were realized simultaneously with such notable accomplishments as a zero mishap rate for the Pacific Air Forces (PACAF). This was the first time a zero rate was achieved by a major command flying fighters. Continued Congressional support for training programs along with force modernization, operational requirement, and personnel programs will ensure that the U.S. Air Force will continue to improve its military effectiveness.

Tables IV-1, IV-2, and IV-3 display total flying hours by aircraft type for the active Air Force, Air National Guard, and Air Force Reserve. The projected increase in FY 86 reflects the continued effort in maintaining a high state of readiness.

TABLE IV-1

ACTIVE U.S. AIR FORCE FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Programmed</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-7	6,493	6,480	7,087	7,740
A-10	174,742	173,618	171,317	172,518
A/OA-37	16,990	14,927	12,348	13,412
B-52	103,659	104,973	103,840	103,118
C-5	40,360	41,416	36,004	33,310
C-9	29,470	28,820	29,490	29,490
C-130 (all)	224,237	232,003	228,725	202,236
C-135 (ex. KC-)	58,804	52,741	57,878	58,627
C-141	228,700	231,075	231,541	222,135
E-3	30,186	30,045	29,564	29,724
E-4	1,396	1,406	1,954	1,954
EF-111	6,014	9,845	11,776	11,798
F-4*	163,287	157,068	139,904	126,690
F-15*	175,341	181,903	192,564	195,405
F-16*	186,128	201,826	229,170	259,321
F-106*	20,078	10,790	4,689	3,392
F-111	72,948	70,226	70,962	70,602
FB-111	19,144	20,627	20,727	19,239
H-1	45,300	44,722	45,415	43,969
H-3	20,165	21,195	20,659	20,651
H-53	13,880	12,373	14,696	14,769
H-60	4,092	3,058	4,347	4,224
KC-10**	10,561	13,945	16,244	19,000

(Continued)

IV-1

TABLE IV-1 (continued)

Aircraft	Actual		Programmed	
	FY 84	FY 85	FY 86	FY 87
KC-135	151,964	157,132	151,306	159,865
O-2*	24,660	25,745	22,361	7,019
OV-10	24,257	24,899	32,206	33,036
RF-4	49,211	49,650	49,402	45,664
T-37	319,596	315,066	324,394	331,273
T-38	378,643	361,082	367,163	364,969
T-39/C-12/C-21	85,656	87,320	90,079	91,379
TR-1	4,073	5,165	8,896	10,726
Other	116,155	142,652	150,205	164,573
TOTAL	2,806,190	2,833,793	2,876,913	2,871,828

* Flying hour changes are due to force structure changes driven by force modernization.

** Flying hour changes are due to an expanded force structure.

TABLE IV-2

U.S AIR FORCE RESERVE FLYING HOURS BY AIRCRAFT

Aircraft	Actual		Programmed	
	FY 84	FY 85	FY 86	FY 87
A-10	21,486	22,268	22,268	22,808
C-5 Associate*	19,120	18,424	18,948	18,617
C-5 Unit Equipped	N/A**	446	2,011	2,734
C-130 (cargo models)	66,506	65,800	68,370	66,404
C-141 Associate*	63,249	61,830	59,626	56,709
C-141 Unit Equipped	N/A***	N/A***	300	2,397
F-4	21,546	21,806	22,185	22,185
F-16	2,942	5,092	5,220	5,216
H-1	2,393	2,276	2,295	2,144
H-3	5,777	3,277	3,374	3,341
KC-10****	7,205	10,079	13,173	16,152
KC-135	9,102	9,027	9,000	9,000
UC-123	737	936	638	80
TOTAL	220,063	221,261	227,408	227,787

* Associate units are without assigned aircraft.

** C-5 unit equipment begins in FY 85.

*** C-141 unit equipment begins in FY 86.

**** Flying hour changes are due to an expanding force structure.

TABLE IV-3

AIR NATIONAL GUARD FLYING HOURS BY AIRCRAFT

<u>Aircraft</u>	<u>Actual</u>		<u>Programmed</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-7	77,915	78,300	74,268	74,268
A-10	28,874	27,220	27,968	27,968
C-5	0	211	2,366	1,821
C-12	0	70	2,656	4,714
CT-39	0	2,899	2,640	2,640
C-130 (all)	82,300	83,947	85,251	89,813
C-131	10,393	10,003	7,899	3,091
C-141	0	0	322	3,229
F-4	87,472	92,903	94,422	89,186
F-15	0	90	2,867	4,781
F-16	4,794	5,151	5,961	20,334
F-106	20,331	20,374	21,222	13,275
H-3	449	2,781	3,060	3,060
KC-135	40,820	41,413	40,872	39,903
O-2	2,697	958	0	0
OA-37	13,548	13,430	15,654	15,654
RF-4	28,221	29,061	28,469	28,475
T-33	9,071	9,108	11,316	11,316
Other	<u>9,882</u>	<u>4,693</u>	<u>7,443</u>	<u>9,844</u>
TOTAL	416,767	422,612	434,666	443,372

TABLES IV-1, IV-2, IV-3

TOTAL

3,443,020	3,477,666	3,538,987	3,542,987
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Tables IV-4, IV-5, and IV-6 display flying hours per crew per month for selected high-density aircraft for the active Air Force, Air National Guard, and Air Force Reserve.

TABLE IV-4

ACTIVE U.S. AIR FORCE FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Tng/Ops Goal</u>	<u>Actual</u>		<u>Programmed</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-10	23.6	22.7	22.8	22.5	22.7
B-52	27.0	20.7	20.9	20.6	20.4
C-5	15.6	16.4	17.0	14.9	13.6
C-130	33.0	27.8	29.5	29.9	26.2
C-141	35.4	34.2	34.3	34.0	33.9
F-4	18.6	16.4	16.2	16.2	16.9
F-15	21.1	18.6	19.2	19.0	19.3
F-16	21.7	19.4	19.1	18.6	19.0
F-111	20.2	17.7	17.6	18.1	18.2
FB-111	20.9	14.5	17.6	17.5	17.0
KC-135	20.3	17.3	16.9	16.4	18.2

TABLE IV-5

U.S. AIR FORCE RESERVE FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Tng/Ops Goal</u>	<u>Actual</u>		<u>Programmed</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-10	12.3	13.6	12.9	12.3	12.3
C-5 Associate*	11.8	11.4	10.4	11.8	11.7
C-5 Unit Equip**	10.8	N/A	8.8	10.8	10.8
C-130 Cargo models	14.2	14.7	14.2	14.2	14.2
C-141 Associate*	10.2	10.8	10.5	10.2	10.1
C-141 Unit Equip**	10.0	N/A	N/A	10.0	10.1
F-4	11.3	11.8	11.6	11.3	11.3
F-16	11.3	11.7	11.8	11.3	11.3
KC-135	15.6	16.5	15.7	15.6	15.6

* Associate units are without aircraft.

** Units are equipped with aircraft.

TABLE IV-6

AIR NATIONAL GUARD FLYING HOURS PER CREW PER MONTH

<u>Aircraft</u>	<u>Tng/Ops Goal</u>	<u>Actual</u>		<u>Programmed</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-7	10.4	9.5	9.5	9.5	9.5
A-10	11.7	11.1	11.1	11.6	11.6
C-130	15.7	15.2	15.2	15.2	15.2
F-4	8.9	8.3	8.3	8.6	8.6
F-16	10.3	9.2	9.2	9.2	9.2
F-106	11.7	11.7	11.7	11.7	11.7
KC-135	14.6	14.6	14.6	14.6	14.6
OA-37	8.8	8.4	8.4	8.4	8.4
RF-4	9.6	9.3	9.3	9.5	9.5

Although the Air Force is nearly meeting its peacetime training objectives, any cuts to the flying hour program would adversely impact on combat readiness. In the near term, there will be a growth in the requirement for mission training related to new weapon systems (F-15, F-16, KC-10) and sophisticated munitions (air-launched cruise missiles, precision-guided missiles) as these systems come on line. As the threat becomes more sophisticated, the amount of training required to meet and defeat that threat will increase.

Training Devices and Simulators. The goal of the Air Force simulator program is to complement the aircrew flying training program. The emphasis of the program is on aircrew training requirements that can best be supplemented through the use of simulators. The FY 87 budget will support prototype simulator development for the B-1B, F-15E, GBU-15 Part Task Trainer, and Low Altitude Navigation and Targeting Infrared system for Night (LANTIRN) simulators. The Air Force is continuing to adapt commercial training programs where feasible. These programs are currently used for the KC-10 and the E-3. Commercial training programs are scheduled for the C-5 and C-130 systems in FY 87 and are being considered for the C-17, C-141 and a number of tactical systems in the future.

Training improvements are occurring across the board as a result of Congressional budget support. While the aircrew simulator program has experienced successes, the need still exists for simulators with the proper levels of fidelity, sophistication, currency with aircraft configuration, and availability to complement the flying training program. Continued support for the Air Force simulator programs is essential to ensure aircrews have devices which will allow them to learn and practice effectively on the aircraft. Implementation of simulators in aircrew training programs provides a cost-effective training strategy for the improvement of combat readiness.

Table IV-7, IV-8, IV-9, and IV-10 display the number of trainers (i.e. Operational Flight Trainers and Weapon System Trainers) the USAF operates. Each of the aircraft simulator types shown has a supporting family of trainers which may include: cockpit procedure trainers, part-task trainers, cockpit familiarization trainers, computer-based instruction trainers, and maintenance mock-ups. Table IV-11 provides projected utilization data for selected operational flight trainers. Since accurate trainer utilization hours were not available for FY 84 and FY 85, the projected and actual utilization for all the trainers will be shown in the next edition of this report.

An Operational Flight Trainer (OFT) is a device which dynamically simulates the flight characteristics of the designated aircraft. The OFT is used to train flight crews in normal cockpit procedures, instrument flight procedures, emergency procedures, and limited combat mission execution. The OFT allows for the combining of safety-of-flight skills with some warfighting tasks.

A Weapon System Trainer (WST) is a device which provides a synthetic flight and a tactical environment in which aircrew members can learn, develop, improve, and integrate the skills associated with their crew position for a specific aircraft. Crew members may operate individually or as a team in the execution of warfighting missions.

TABLE IV-7

ACTIVE U.S. AIR FORCE OPERATIONAL FLIGHT TRAINERS

<u>Aircraft Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-10	7	7	7	7	7
C-130	0*	9	7	7	6
C-141	8	8	8	8	8
CH-3E	1	1	1	1	1
E-3	1	1	1	1	1
F-4E	9**	11	11	9	7
F-15	14	9	10	12	13
F-16	***	8	8	9	11
F-111A/D/E/F	7	7	7	7	7
FB-111A	3	3	3	3	3
HH-53C	1	1	1	1	1
KC-135R	***	0	1	1	1
RF-4C	5	7	7	5	5
SR-71	1	1	1	1	1
T-37	11	11	11	11	11
T-38	11	11	11	11	11
WC/C-135	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
TOTAL	80	96	96	95	95

* All C-130 OFTs are being converted to WSTs.

** This is the current requirement.

*** The F-16 and KC-135R OFT requirements are currently under review.

TABLE IV-8

U.S. AIR FORCE RESERVE OPERATIONAL FLIGHT TRAINERS

<u>Aircraft Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-10	4	4	4	4	4
F-4D	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
TOTAL	5	5	5	5	5

TABLE IV-9

AIR NATIONAL GUARD OPERATIONAL FLIGHT TRAINERS

<u>Aircraft Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
A-7	5	5	5	5	5
A-10	3	3	3	3	3
F-4C	3	5	5	3	7
F-4D	7	9	9	7	8
F-4E	2	0	0	2	3
RF-4C	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>
TOTAL	22	24	24	22	23

TABLES IV-7, IV-8, IV-9
TOTAL

107* 125 125 122 123

*Figure does not include OFTs for aircraft whose OFT requirements are currently under review.

TABLE IV-10

ACTIVE U.S. AIR FORCE WEAPONS SYSTEM TRAINERS*

<u>Aircraft Simulator Type</u>	<u>Total Simulator Requirements</u>	<u>On Hand</u>		<u>Projected</u>	
		<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
B-52G	6	4	6	6	6
B-52H	3	3	3	3	3
C-5	5	5	5	5	6
C-130	10**	1	3	3	4
EF-111A	2	0	0	1	2
F-4G	4	3	4	4	4
KC-10	3	1	2	2	3
KC-135	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
TOTAL	34	18	24	25	29

* The Air National Guard and Air Reserve Forces do not own weapon system trainers.

** All C-130 OFT are being converted to WST.

TABLE IV-11

ACTIVE U.S. AIR FORCE OPERATIONAL FLIGHT TRAINER UTILIZATION HOURS

<u>Aircraft Simulator Type</u>	<u>Actual</u>		<u>Projected</u>	
	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
<u>Active</u>				
A-10	*		14,600	14,600
F-4E**	*		14,900	12,300
F-15**	*		18,200	19,700
F-16**	*		18,000	27,200
F-111A/D/E/F	*		10,400	10,100
RF-4C	*		4,600	4,400
<u>Air Force Reserve</u>				
A-10	*		1,800	1,800
F-4D	*		500	500
<u>Air National Guard</u>				
A-7	*		3,500	3,500
A-10	*		1,600	1,600
F-4C	*		1,300	800
F-4D	*		2,200	3,200
F-4E	*		900	1,200
F-16	*		1,400	1,400

* Accurate Operational Flight Trainer hours are not available at this time for FY 84 and FY 85. The projected and actual utilization for all trainers will be shown in the next edition of this report.

** Training hour changes are due to force structure changes driven by force modernization.

Range Modernization/Improvement. Ranges are an indispensable tool for exposing aircrew members to expected combat threats and teaching the proper techniques for attacking and destroying enemy targets. Wartime experience has shown that a disproportionate number of combat losses occur during the aircrew's first ten combat missions. To prepare our aircrew members for the modern combat environment, the Air Force needs high quality ranges. The USAF currently operates 44 ranges at 16 locations; the Air Reserve Forces (i.e., Air National Guard and Air Force Reserves) operate 19 ranges at 14 locations. Through real estate transactions, the USAF plans the following range improvements:

- In FY 86, the USAF will add approximately 55,000 acres to the Melrose range at Cannon AFB, NM. This additional acreage will improve the quality of tactical training for the 27th Tactical Fighter Wing and others by removing the current training restrictions caused by insufficient range size.
- In FY 86, the USAF will construct a new air-to-ground weapons range adjacent to Moody AFB, GA. This range will greatly improve the training capability for the 347th Tactical Fighter Wing. They currently have a lot of non-productive time during their training missions since they must fly long distances to conduct air-to-ground training.

The USAF has developed a Range Improvement Program (RIP) to improve the quality of existing ranges. The RIP will upgrade a range's quality by procuring both range threat simulators and range instrumentation. The range threat simulators make the range training more realistic by providing aircrew members the opportunity to fly against simulated enemy defensive systems. The range instrumentation includes equipment like the Air Combat Maneuvering Instrumentation (ACMI) system. The ACMI system allows pilots to fight each other in the air and score "kills" without launching live ordnance. All data are recorded and can be replayed at any time. Table IV-12 below summarizes the funding profiles for the Tactical Air Forces' and the Strategic Air Command's range equipment.

TABLE IV-12

U.S. AIR FORCE CONUS RANGE MODERNIZATION/IMPROVEMENT
(\$ In Millions)

	<u>Actual</u>	<u>Projected</u>	
	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
Active*	92.5	103.6	164.7
Air Force Reserve	0	0	0
Air National Guard**	0	2.5	1.7

* These totals included the Tactical Air Forces' and Strategic Air Command's 3010 and 3080 funds allocated for the RIP.

** These totals are for air-to-ground range improvements.

Air Reserve Forces (ARF) units have little difficulty scheduling conventional air-to-ground range activity. However, ACMI air-to-air ranges, electronic counter measure ranges and realistic tactical ranges are not effectively available to meet ARF training needs for a high quality force. Many ranges are small, very restricted pieces of real estate surrounded by environmentally sensitive areas. Most medium/high altitude Military Operating Areas (MOA) prohibit supersonic training and most low altitude MOAs are very small. While our fighter crews are proficient in putting bombs on target and in air-to-air work, these airspace/landspace restrictions often severely restrict crews from integrating the full range of tactics with weapons deliveries. The specific deficiencies are:

- The lack of readily available electronic combat training which the aircrew members need to survive in a modern high-threat environment.
- The lack of tactical ranges on the East Coast and in overseas locations.
- Physical range size limitations which prevent the employment of special capability weapons (laser-guided bombs, Mavericks, etc.).

Training Munitions. Table IV-13 shows trends in the procurement of training munitions for the Air Force. Due to differences between the munitions procurement and the munitions expenditure tracking systems, it is difficult to draw a direct comparison between actual procurement costs and expenditure costs for any given year. The munitions procurement requirements for peacetime consumption are established by the major commands based on published training goals. Because of the long lead times and the delays inherent in the procurement process, the procured training munitions may not be actually expended until 2-3 years later. The munitions procurement system tracks the estimated and actual procurement costs. On the other hand, the munitions expended tracking system notes the type and quantity available/used and not the actual costs. Since all funds budgeted for training munitions are spent for those munitions, the procurement funds spent for training munitions in any one year should be approximately the same as the cost of the training munitions expended for that year. Reductions in ARF FY 86 training munition allocations will have an impact on the ability of unit supervisors to meet their training objectives; hence, reductions will affect combat capabilities.

TABLE IV-13

U.S. AIR FORCE TRAINING MUNITIONS PROCUREMENT
(\$ in Millions)

	<u>Actual</u>		<u>Estimated</u>	
	<u>FY 84</u> <u>Procured</u>	<u>FY 85</u> <u>Procured</u>	<u>FY 86</u> <u>Procurement</u>	<u>FY 87</u> <u>Procurement</u>
ACTIVE	217.0	273.0	251.3	244.8
GUARD	57.0	42.0	58.0	76.0
RESERVE	7.0	4.0	7.0	18.0
TOTAL	281.0	319.0	316.3	338.8

Service Exercise Participation. Each Air Force active, Guard, and Reserve unit exercise is tailored to provide realistic training and to demonstrate weapon system capability. All forces are improving their combat readiness through participation in "FLAG" exercises. These exercises provide excellent aircrew training in an interactive environment with other Air Force major commands, other military services, and forces from other nations. These exercises include:

- RED FLAG: This exercise is conducted on the range complex at Nellis AFB, NV. It provides intensive combat crew training for tactical units and aircrews in a realistic combat environment.
- GREEN FLAG: This exercise is similar to the RED FLAG exercise, except that GREEN FLAG introduces the maximum allowable amount of electronic combat training.
- COPPER FLAG: This exercise provides our air defense forces realistic training against simulated air breathing threats at Tyndall AFB, FL.
- MAPLE FLAG: This joint exercise is conducted in Canada with Canadian air units. It provides tactical training over terrain similar to that in Europe.
- BLUE FLAG: This exercise provides non-flying training for battle managers in various wartime tactical scenarios.
- CHECKERED FLAG: This exercise provides CONUS-based active duty and Air Reserve Force (ARF) aircrews with training in overseas locations.

Tables IV-14, IV-15, and IV-16 display active Air Force and ARF participation in "FLAG" exercises for FY 84 and FY 85. Table IV-19 displays JCS exercises by strategic, tactical, and airlift force categories. Participation rates in FY 86 and FY 87 are projected to be roughly the same as for FY 85.

Table IV-17 represents active Air Force and ARF participation in the magnitude of 28 JCS-directed and 44 JCS-coordinated exercised in FY 85. The Air Force plans to participate in approximately 25 JCS-directed and 62 JCS-coordinated exercises in FY 86 and FY 87.

TABLE IV-14
ACTIVE U.S. AIR FORCE PARTICIPATION IN "FLAG" EXERCISES

<u>Type of Force</u>	<u>Actual</u>			
	<u>FY 84</u>		<u>FY 85</u>	
	<u>Sorties</u>	<u>Flying Hours</u>	<u>Sorties</u>	<u>Flying Hours</u>
Tactical Air Forces*	11,997	18,981	14,412	23,005
Strategic Bomber Tanker Forces**	1,053	5,203	1,321	7,063
Strategic/Tactical Airlift Forces***	486	1,104	506	1,114

TABLE IV-15
U.S. AIR FORCE RESERVE PARTICIPATION IN "FLAG" EXERCISES

<u>Type of Force</u>	<u>Actual</u>			
	<u>FY 84</u>		<u>FY 85</u>	
	<u>Sorties</u>	<u>Flying Hours</u>	<u>Sorties</u>	<u>Flying Hours</u>
Tactical Air Forces*	290	352	214	399
Strategic Bomber Tanker Forces**	30	113	30	109
Strategic/Tactical Airlift Forces***	196	576	203	456

TABLE IV-16
AIR NATIONAL GUARD PARTICIPATION IN "FLAG" EXERCISES

<u>Type of Force</u>	<u>Actual</u>			
	<u>FY 84</u>		<u>FY 85</u>	
	<u>Sorties</u>	<u>Flying Hours</u>	<u>Sorties</u>	<u>Flying Hours</u>
Tactical Air Forces*	2,012	2,785	1,799	2,448
Strategic Bomber Tanker Forces**	91	355	129	527
Strategic/Tactical Airlift Forces***	123	309	159	320

* Tactical Air Forces figures come from RED, GREEN, MAPLE, and COPPER FLAG data.

** Strategic Bomber and Tanker Forces figures come from RED and GREEN FLAG data.

*** Strategic and Tactical Airlift Forces figures come from RED, GREEN, and MAPLE FLAG data.

TABLE IV-17

U.S. AIR FORCE PARTICIPATION IN JCS EXERCISE PROGRAM

<u>Type of Force</u>	<u>Actual</u>			
	<u>FY 84</u>		<u>FY 85</u>	
	<u>Sorties</u>	<u>Flying Hours</u>	<u>Sorties</u>	<u>Flying Hours</u>
Tactical Air Forces	17,409	29,224	19,449	32,649
Strategic Bomber Tanker Forces	650	7,400*	1,264	6,350
Strategic/Tactical Airlift Forces**	N/A	52,512	N/A	61,131

* Data are for bombers only, since tanker information could not be recovered.

** Numbers of sorties are not part of the airlift data base, since airlift operations are defined in terms of missions which may involve several individual sorties. These figures do not reflect the \$38.448 million which HQ MAC contracted with civilian US carriers for aircraft during JCS exercises in FY 85.

U.S. Air Force Theater Perspective on Training This section contains the unclassified training related theater Situation Report (SITREP) statements for the CONUS, European, and Pacific Theaters. The commander's SITREP provides an assessment of his unit's readiness, sustainability, force structure, and modernization, and a listing of significant factors that substantially improve or degrade his capability to meet requirements of the plans approved by the Joint Chiefs of Staff.

CONUS

Military Airlift Command (MAC) pilot retention declined further in FY 85. The six to eleven year group MAC pilot separations are up 65 percent over the last fiscal year. The Future Aviation Professionals of America (FAPA) reports the airlines hired 5456 pilots in CY 84 and FAPA projects that 6000 pilots will be hired in CY 85. Any current hesitancy of our pilots to leave the USAF may disappear altogether if the airlines offer higher starting salaries and/or if there are any adverse changes to the military pay and entitlements. HQ MAC has taken several measures to address the declining pilot retention. MAC hosted three aircrew activity seminars for our aircrew members, squadron commanders, and wing commanders. The seminars were successful in determining career irritants and providing recommended solutions. MAC has sent letters to 21 airlines asking for information on current contracts, work agreements, medical and dental benefit plans, etc. The intent is to develop an up-to-date comparison of airline and Air Force life. In response to the MAC selective recall program, several prior MAC C-130/C-141 pilots asked for more information, and one of them has applied for recall. Even if only one pilot returns, the program will have more than paid for itself. While MAC is hopeful these efforts will help, the concern remains that continuing losses will adversely impact experience levels and our ability to go to war.

New MAC FY 86 estimates of the C-5 and C-141 Utilization (UTE) rates indicate that neither aircraft can achieve the wartime objective UTE rates. For the first time, aircrew qualification exerts a greater constraint on the obtainable UTE rates than do spare parts. Qualified flight engineers (both active and reserve associate) constrain the C-5 sustained UTE rate and both the C-141 surge and sustained UTE rates. Further, new MAC FY 86 estimates of C-130 UTE rates indicate that MAC intratheater airlift forces cannot achieve their wartime objective UTE rates. Lack of sufficient qualified flight engineers will limit the active duty C-130 UTE rates, and insufficient loadmasters will constrain Air National Guard UTE rates.

Strategic Air Command (SAC) officer retention rates through the 3d quarter FY 85 remained stable with the exception of pilots. Pilot retention has declined 16 percent since FY 84. Navigator and missile officer retention remain at an all-time high. SAC's enlisted first term retention and second term retention declined five percent and three percent, respectively, over the past year. The retention rate for career personnel remains at 95 percent.

SAC personnel resources available to support aircraft sortie generation mirror the Air Force-wide pattern of shortages in senior grades and overages in lower grades. Solid retention in recent years and the resulting "maturing" of the force have improved SAC's capabilities in this area. Additional Air Force-wide maintenance requirements will continue to "stress" this resource and place a premium on both training programs and the maximum utilization of these personnel.

The T-33 aircraft now used in Electronic Counter Measure (ECM) training are inadequate due to limited capability in that role. HQ Tactical Air Command (TAC) and Air Defense Tactical Air Command (ADTAC) are examining the feasibility of contracting an advanced ECM training vehicle with internally mounted ECM equipment. It will have the capability to emulate Soviet fighter or bomber ECM to include chaff, flares, self-protection, communications, and surveillance radar jamming.

The lack of a dedicated target force continues to be one of the major problem areas for North American Air Defense Command (NORAD) live exercises. The problem is currently being addressed by ADTAC, TAC, Aerospace Defense Command (ADCOM), and the USAF. Until a solution is found, the NORAD live flying exercises will lack the degree of realism and difficulty needed to adequately train, exercise, and evaluate the ground radar system, E-3, and interceptor aircraft in the anticipated wartime environment.

The peacetime training in the critical electronic combat disciplines is severely limited for the reserve fighter forces. Air Force Readiness Command (AFRED) requires further support for the development of new ranges and the upgrade of existing ranges. The ongoing air space/range space project is making progress in improving both air-to-air and air-to-ground training for the gained forces.

It is difficult for AFRED reserve units to train munitions maintenance personnel. Presently, the majority of training uses less than full-scale munitions, which results in unrealistic training. The TAC initiative to institute a munitions storage and training area at RED FLAG and the current Air Staff Program Management Directive to direct the establishment of a War Reserve Material (WRM) munitions training area are expected to ease this problem.

USAF Security Police (SP) were integrated into the Ground Launched Cruise Missile (GLCM) Flight Training Program at Davis - Monthan AFB, AZ in FY 85. All personnel with GLCM Air Force Specialty Codes now receive their initial training as a team. AFRED noted that the SP curriculum was developed to enhance specific weapon system dispersal knowledge and field deployment skills.

To ensure a continued capability to complete the wartime mission for MAC aircrews, the Combat Aircrew Training School (CATS) was established at Nellis AFB NV. This school is a four-week ground training program focusing on threat analysis, support capabilities, force employment, mission planning, and mission execution in various threat environments. This training involves event-intensive missions with TAC, the Army, and other forces. After training, CATS graduates set up training programs at their parent wings.

The Advanced Airlift Tactics Training Center (AATTC) is an Air National Guard operated program, similar to Combat Aircrew Training School (CATS). The center annually provides hostile environment classroom and flight instruction to 80 C-130 aircrews from active and ARF units. Both the CATS program and the AATTC provide increased capability to train these aircrews for airlift operations in a combat environment.

PACIFIC

The Tactical Air Forces (TAF) continue to face significant turbulence in the aircrew force brought about by the exceedingly high losses of experienced fighter pilots during FY 78-FY 80. To offset these losses, the TAF has undermanned staff billets and max-absorbed new pilots inputs. These actions have impacted heavily on each flying unit's stability and training. It will take several years of high pilot retention to recover the aircrew stability and experience desired in our Tactical Air Forces.

The Crow Valley Range on Luzon and the Pil Sung Range in South Korea are PACAF's only Electronic Warfare (EW) training facilities. Currently, Crow Valley provides the best EW training available in the Pacific Air Force (PACAF) considering the range sizes and current equipment constraints. The programmed new equipment will enable the Crow Valley Range to provide threats that represent the Soviet Far East Military District, Southeast Asia, and the North Korean scenarios. The Pil Sung Range is a USAF/Republic of Korea Air Force (ROKAF) shared cost, EW/Tactics range simulating the North Korean scenario. Both ranges fall short of providing the optimum training environment because of logistics support problems with threat systems, limited range size, and funding limitations under the USAF Range Improvement Program.

Air Base Ground Defense (ABGD) training continues to be a major shortfall for the security police air base defenders. The development of a FY 87-FY 91 PACAF proposal for more ADGD training programs in PACAF is being delayed pending the final resolution of the recent Army-Air Force air base defense Memorandum of Understanding (MOU). As an interim fix, PACAF continues to fund and support the PACAF regional training facility at Crow Valley for the mobility tasked ABGD forces' initial and recurring training. The ongoing negotiations with the Army over the assumption of the external base defense does not appear to alter base defense operations in this theater.

EUROPE

Air Force, Atlantic Command (AFLANT) has a major concern with the decline in first and second term re-enlistment rates and Tactical Air Command's (TAC) pilot retention rates. Initiatives are underway to stop the declining re-enlistment and pilot retention rates. Further, some units are experiencing shortages in critical sortie-generation skills. The most critical shortage is in munition maintenance.

This program of approximately 80 directed and coordinated exercises per year is designed to deploy forces to the Far East, Europe, Latin America, and the Middle East; operate in desert and other extreme environments; exercise command and control of multi-Service task forces; and link reinforcing units with deployed or pre-positioned equipment. Another very important readiness benefit is derived from the realistic training these exercises provide to support units and functions during the deployment, employment and redeployment phases. This training improves the performance of operational units, sealift and airlift organizations, logistics networks, lines of communication, medical support, and supply functions of all types. Finally, these exercises are used to evaluate U.S. strategic plans and show U.S. presence throughout the world.

In recent years, the world situation has increasingly required the demonstration of U.S. resolve and capability to project U.S. military presence in support of national interest and commitments. Combined exercises with allies provide the necessary interaction to test and evaluate combined systems, lines of communication, and agreements. The BRIGHT STAR series of exercises demonstrates U.S. determination to project military forces into the Middle East to defend interests in that region. Similarly, intensified joint and combined exercises are conducted in the Central American-Caribbean region. The annual REFORGER exercise ("return of forces to Germany") and TEAM SPIRIT in Korea continue to demonstrate resolve and support for U.S. allies in those regions. During FY 87, joint and combined training exercises will continue to play a vital role in sharpening the readiness posture of U.S. forces and that of its allies.

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